MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for March, 1895, is based on reports from 3,209 stations occupied by regular and voluntary observers. These reports are classified as follows: 149 reports from Weather Bureau stations; 36 reports from U. S. Army post surgeons; 2,379 monthly reports from State Weather Service and voluntary observers; 31 reports from Canadian stations; 68 reports through the Southern Pacific Railway Company; 528 marine reports through the cooperation of the Hydrographic Office, Navy Department, and New York Herald Weather Service; monthly reports from 18 U. S. Life-Saving stations; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, chief of that division.

CHARACTERISTICS OF THE WEATHER FOR MARCH, 1895.

The mean temperature throughout the United States was not remarkable for any extreme values, but the extreme temperatures were the highest on record in the interior and the lowest on record on the coast of Washington, Oregon, and California. The accumulated temperatures continue to show a general deficit. The rainfall was deficient over the extreme Northern and Southern States and the Atlantic coast, but was in excess over the Central States. The accumulated precipitation continued to show a deficit from the Middle States and New England west and southwest to the Rocky Mountain plateau.

ATMOSPHERIC PRESSURE.

[*In inches and hundredths.*]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The *mean pressures* during the current month were highest in the southern and central portions of the United States; the highest was 30.14, Tampa and Titusville. The lowest mean pressures were in Canada, the northern portion of the United States, and along the coast of Washington and Oregon; the lowest was 29.69, St. Johns.

As compared with the normal for March, the mean pressure for the current month was decidedly in excess in the Lake region, along the Atlantic coast from New Hampshire to the extreme southern end of Florida, along the Gulf coast and in the Mississippi Valley as far north as St. Paul, except in Mississippi and a portion of Louisiana; the greatest excess was Lander, 0.07. Pressure was deficient in Maine and Canada, in the British Possessions, and along the northern portion of the United States to the Pacific coast and through Washington, Oregon, and California to Yuma, also in Mississippi and part of Louisiana; the greatest deficit was 0.14, St. Johns.

As compared with the preceding month of February, the pressures reduced to sea level show a rise in Canada, New England, New York, New Jersey, and the Lake region as far as Sault Ste. Marie. The maximum rise was Yarmouth, 0.13. Throughout the rest of the country pressure fell. The maximum falls were: Miles City, 0.27; Medicine Hat and Idaho Falls, 0.26; Oklahoma, 0.25.

AREAS OF HIGH PRESSURE.

The tracks of the centers of areas of high pressure are shown on Chart IV, which also gives the maximum pressure at the center at each date.

Of these areas the most remarkable were the following:

I.—This appeared on the 1st, covering the Rocky Mountain plateau region, where the center of highest pressure soon disappeared. At that time its front extended from southern Texas to the Upper Lake region with strong, cold, northwesterly winds over the entire interval. As this front moved eastward to the Appalachians, with rain or snow from Texas to the Lake region, a trough of low pressure developed at the southern extremity in Alabama and moved eastward as low No. II, while another developed at the northern extremity and moved northeastward as low No. I. The heavier rains and stronger winds attended the center of the southern depression.

VII.—This first appeared in Alberta and Saskatchewan on the 11th, and was central in Nebraska on the 14th. While pressure was high on the eastern slope of the Rocky Mountains it was low on the western slope, and continued low from the 10th to the 14th at Yuma. We may, therefore, consider that a trough prevailed from Mexico northwest beyond British Columbia, while the two high areas over the western Pacific and the central portion of North America pressed toward each other to fill up this deficiency and brought westerly winds and rains to the Pacific coast but easterly winds and snow to the eastern slope of the Rocky Mountains. Within such a long trough of low pressure, or meiobar, numerous whirls are formed between the contending winds. As before explained in connection with the "northers" of the Gulf of Mexico, so also in this case throughout the Rocky Mountain plateau region, whenever such whirls are anticyclonic they are short-lived, but when they are cyclonic and properly supplied with moist air they develop into disturbances of larger size and longer duration, and this generally occurs at the southern end of the meiobar. In the present case a series of special but minor depressions developed over the Rocky Mountain plateau during the 10th, 11th, 12th, and 13th, until finally, on the 14th, at the southeastern end of the general depression, low No. XIII was formed on the coast of Texas and moved rapidly northeastward, reaching the coast of Nova Scotia by the 16th, p. m.

VIII.—This began on the 18th in Manitoba and ended on the 24th on the south Atlantic coast. During the greater part of its course it presented the aspect of a ridge of high pressure, trending northeast and southwest, and, therefore, in the first part of its career crossing the Rocky Mountain region, but in the latter part parallel to the Appalachian range. The area covered by the daily weather map is not large enough to show the relation of this area of high pressure to distant areas, but we may call attention to some features. There was, on the 18th, a general flow of air southeastward from Manitoba and Hudson Bay to the middle Atlantic and the New Brunswick coast following in the rear of the storm that was then central over the Gulf of St. Lawrence. A second extensive storm was also at that time approaching British Columbia from the Pacific and a slight depression existed in Texas. Therefore, high area No. VIII may have been due to an outflow of cold air from the Hudson Bay region toward these regions of low pressure, in which case the high areas moved southeast and the low areas northeast, as if independent of each other. On the other hand, the system of three lows attending this high area may be considered as forming with it one system of depressions and elevations whose motions resemble the result of a system of waves moving northeastward and interfering with another system moving southeastward; this may, however, be only a superficial resemblance. On the 23d, a. m., this high area was central in Pennsylvania, and temperatures of 38° to 42°, with light frosts, were reported from North and South Carolina, northern Georgia, and eastern Tennessee.

AREAS OF LOW PRESSURE.

The tracks of the centers of areas of low pressure are shown on Chart I, which also gives the minimum pressure at the center for each date.

The most interesting of these areas, considered as storms, are the following:

IV.—This developed rapidly on the 2d and 3d in front of high area No. II, which was then central over the Rocky Mountain plateau. It passed southeast to Missouri and thence northeast to Ohio, where it was central on the 4th, a. m. High winds and heavy snows prevailed over the Lake region, and subsequently over New England, as the storm center passed rapidly northeast to the Gulf of St. Lawrence.

VI.—This appeared first in Saskatchewan, and by the 8th, a. m., was central over Lake Huron, with heavy snow and high winds over the Upper Lakes. By the 9th, a. m., it had apparently broken up in that region, but was followed by a low off the middle Atlantic coast, which had undoubtedly begun its development on the 8th in North Carolina and West Virginia, where high winds with snow or rain had prevailed from Atlanta northward. This is the ordinary case of the transfer of a cyclone from the west to the east side of the Appalachians; the original storm dies away on the west side while the new one is springing up on the east side south or southeast of the former. There is always a tendency for such a transfer to occur. Minor whirls are almost invariably formed on the east slope and at the southern end of the barometric trough, and if circumstances are favorable these increase in importance while the original dies away. The process is precisely similar to what happens on a very much larger scale throughout the Rocky Mountain slope and plateau. In the latter case, owing doubtless to the great height of the mountains and the dryness of the air on the eastern slope, cyclonic storms are entirely broken up as such on the western slope, and if within the resulting trough of low pressure there should be formed a new storm center it will be far to the south or southeast of the original storm track, and will be a feeble depression, notwithstanding the strong winds, until it reaches

MOVEMENT OF CENTERS.

The following table shows the date and location of the center at the first and last appearance of each area of high or low pressure on the U. S. weather maps during the month, together with the average daily and hourly velocities. The monthly averages will differ according as we consider each path as a distinct unit, or give equal weight to each day of observation; in the first case the monthly average is taken by paths, in the latter case by days:

Movement of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long W.	Length.	Duration.	Daily.	Hourly.
High areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	1, a. m.	43	111	2, p. m.	29	101	1,150	1.5	767	32.0
II	2, p. m.	52	114	6, a. m.	36	74	2,900	3.5	829	34.5
II*a*	3, a. m.	53	113	3, p. m.	43	119	500	0.5	.....	.....
III	4, a. m.	52	122	6, a. m.	38	91	1,000	2.0	500	20.8
IV	6, a. m.	55	107	.....	.....	.....	.....	.....	.....	.....
V	6, p. m.	42	113	10, p. m.	31	80	2,400	4.0	600	25.0
VI	9, a. m.	55	112	12, a. m.	45	70	2,600	3.0	867	36.1
VII	11, a. m.	53	104	18, p. m.	33	78	2,500	7.5	333	13.9
VIII	18, a. m.	55	103	24, p. m.	32	78	2,700	6.5	415	17.3
IX	21, p. m.	35	121	24, a. m.	40	119	1,400	2.5	560	23.3
X	24, p. m.	50	115	30, p. m.	28	79	3,600	6.0	600	25.0
XI	27, a. m.	50	105	29, a. m.	38	75	2,100	2.0	1,050	43.7
XII	29, a. m.	42	121	31, p. m.	42	107	1,300	2.5	520	21.7
Sums	.....	.....	.....	.....	.....	.....	24,150	41.5	7,041	.....
Mean of 11 paths	.....	.....	.....	.....	.....	.....	.....	.....	640	26.7
Mean of 41.5 days	.....	.....	.....	.....	.....	.....	.....	.....	582	24.3
Low areas.										
I	1, a. m.	44	78	2, a. m.	49	62	850	1.0	850	35.4
II	1, a. m.	34	90	3, a. m.	35	74	1,150	2.0	575	24.0
III	1, p. m.	52	98	4, a. m.	49	53	2,100	2.5	840	35.0
IV	2, a. m.	47	108	5, a. m.	47	62	2,800	3.0	933	38.9
V	3, p. m.	54	113	4, p. m.	42	96	1,110	1.0	1,100	45.8
VI	5, p. m.	53	103	10, a. m.	48	52	3,450	4.5	767	32.0
VII	6, p. m.	28	101	7, p. m.	30	95	400	1.0	400	16.7
VIII	8, a. m.	53	109	10, a. m.	42	80	1,850	2.0	925	38.5
IX	10, a. m.	31	99	11, p. m.	32	93	450	1.5	300	12.5
X	11, a. m.	44	110	13, a. m.	33	95	1,300	2.0	600	25.0
XI	12, a. m.	43	119	13, p. m.	35	114	850	1.5	567	23.6
XII	13, a. m.	37	84	15, a. m.	48	56	1,700	2.0	850	35.4
XIII	14, a. m.	28	98	16, p. m.	46	58	2,450	2.5	980	40.8
XIV	17, p. m.	49	62	18, p. m.	51	62	500	1.0	500	20.8
XV	18, p. m.	37	102	21, a. m.	36	73	1,700	2.5	680	28.3
XVI	18, p. m.	51	124	26, p. m.	52	64	3,800	8.0	475	19.4
XVII	25, p. m.	54	115	29, a. m.	46	59	2,850	3.5	814	33.9
XVIII	26, p. m.	48	128	31, p. m.	37	92	3,000	5.0	600	25.0
Sums	.....	.....	.....	.....	.....	.....	32,200	46.5	12,756	.....
Mean of 18 paths	.....	.....	.....	.....	.....	.....	.....	.....	709	29.5
Mean of 46.5 days	.....	.....	.....	.....	.....	.....	.....	.....	693	28.9

the Mississippi River. This transfer of a cyclonic center across a mountain range produces the southerly curvature in the average storm track of cyclones crossing the North American Continent. The extreme southern limit reached by any track depends upon the dryness and the pressure of the air in the rear, and the turning point is usually found in the neighborhood of Lake Superior, or else in Missouri, or, even, in Texas.

XII.—This began on the 13th in eastern Kentucky and moved rapidly northeastward, reaching Halifax on the 14th, p. m., having been followed by severe northwest winds on the Atlantic coast. This was another illustration of the rapid development of small areas on the east side of the Appalachians while a high area and cold weather prevails on the west side.

XV.—This began on the 18th, a. m., when a slight depression existed in Kansas, with a high area far to the northward. The low moved southward and then east, passing Arkansas on the 19th, p. m., Tennessee on the 20th, a. m., and was found off the North Carolina coast on the 21st, a. m. Numerous heavy local rains attended this storm, and high northwest winds, followed by frosts, prevailed in the rear.

XVI.—This storm moved from the Pacific Ocean eastward into British Columbia on the 18th, 19th, and 20th. Gales, with heavy rains, prevailed in the western part of Oregon and Washington. By the 22d, a. m., the low center was in Alberta, although rain and snow continued in Washington and Oregon. During the 23d the center passed over Manitoba and on the 24th, p. m., was central on the northern border of Lake Superior, while southwest gales prevailed over the greater part of the Lake region, followed by northwest gales and snow on the 25th. This was the southernmost point in its path, and it turned northeastward on the morning of the 25th, disappearing on the 26th in Labrador.

XVII.—This area moved from Alberta to the Lower Lake region without any specially marked feature, but on the 27th, p. m., the northwest gales over Lake Huron on its western side had a temperature near the freezing point, while the southwest winds over the middle Atlantic States and Lower Lakes had temperatures of 50° or 60°, and light rain or snow had begun to fall at the region where these contrasted winds were mixing. On the 28th, a. m., the storm center was a little east of Boston, the minimum pressure at the center having fallen about 0.30 inch, heavy northwest gales were prevailing over the middle Atlantic States and heavy snow from Vermont to the coast of Maine. The center now turned northward, passing along the coast of Nova Scotia and over Newfoundland as a severe hurricane. The lowest pressure recorded was 28.78 at Sydney, C. B. I.

XVIII.—This storm, like the preceding, No. XVI, also moved northeastward toward Vancouver Island, and by the 27th, p. m., was central in British Columbia. By the 28th, p. m., the trough of low pressure extended from Alberta to Nebraska, being now on the east side of the Rocky Mountains, and the 29th, a. m., this had, as usual, closed up into a central depression representing the southern end in South Dakota. The southward movement continued until the end of the month, and by the 31st, p. m., the center was in Missouri.

NORTH ATLANTIC METEOROLOGY.

Ice.—The following table shows the southern and eastern limits of the region within which icebergs or field ice were reported for March during the last 13 years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
	° ′	° ′		° ′	° ′
March, 1882	42 20	50 00	March, 1882	46 30	46 00
March, 1883	41 46	49 48	March, 1883	48 40	43 08
March, 1884	41 20	54 06	March, 1884	45 00	40 15
March, 1885	40 55	49 04	March, 1885	45 57	43 15
March, 1886	40 20	49 02	March, 1886	47 30	44 40
March, 1887	41 00	49 07	March, 1887	45 31	42 56
March, 1888	42 30	50 37	March, 1888	47 23	46 56
March, 1889	44 20	53 00	March, 1889	44 20	53 00
March, 1890	41 01	50 54	March, 1890	46 40	39 50
March, 1891	42 25	50 30	March, 1891	49 00	43 44
March, 1892	43 58	48 15	March, 1892	43 58	48 15
March, 1893	44 35	50 13	March, 1893	45 55	46 56
March, 1894	40 20	49 36	March, 1894	46 25	42 30
March, 1895	44 43	57 15	March, 1895	44 51	48 38
Mean	42 04	50 10	Mean	46 15	45 00

The limits of the region within which icebergs or field ice were reported for March, 1895, are shown on Chart I by crosses. The southernmost ice reported, a large field of ice noted on the 25th, was about 2½° north of the average southern limit, and the easternmost ice observed, a berg of moderate size noted on the 31st in the position given in the table, was about 4¼° west of the average eastern limit of ice for March.

Ice was reported on four dates during the current month. A great deal of slush ice, closely packed about half the time, was encountered near the coasts of Newfoundland; but the ice was thin as compared with former years. Much heavy ice was encountered in the Gulf of St. Lawrence.

Fog.—The limits of fog belts west of the fortieth meridian, as reported by shipmasters, are shown on Chart I by dotted shading. East of the fifty-fifth meridian fog was reported on 9 dates; between the fifty-fifth and sixty-fifth meridians on 5 dates, and west of the sixty-fifth meridian on 8 dates. Compared with the corresponding month of the last seven years the dates of occurrence of fog east of the fifty-fifth meridian numbered 4 more than the average; between the fifty-fifth and sixty-fifth meridians 3 less than the average; and west of the sixty-fifth meridian 3 less than the average.

TEMPERATURE OF THE AIR.

[*In degrees Fahrenheit.*]

The mean temperature is given for each station in Table II, for voluntary observers, but in Table I, for the regular stations of the Weather Bureau, both the mean temperatures and the departures from the normal are given for the current month.

The *monthly mean temperature* published in Table I, for the regular stations of the Weather Bureau, is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

The distribution of the monthly mean temperature of the

air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

The *regular diurnal period* in temperature is shown by the hourly means given in Table IV for all stations having self-registers.

As compared with the normal for March, the mean temperatures for the current month were decidedly in excess in western Florida, parts of Texas, North and South Carolina, Wisconsin, Minnesota, North and South Dakota, and in a few scattered places in Washington, Oregon, and California. The greatest excesses were: Topeka, 4.7; Pierre, 3.8; Moorhead, 3.7; St. Vincent, 3.5.

Considered by districts, the mean temperatures for the current month show departures from normal temperatures as given in Table I. The greatest positive departure was North Dakota, 3.2; the greatest negative departure was for the Lower Lake region, 3.5.

The *years of highest and lowest mean temperature* for March are shown in Table I of the REVIEW for March, 1894. The mean temperature for March, 1895, was not the highest or lowest on record at any regular Weather Bureau station.

The *maximum and minimum temperatures* of the current month are given in Table I. The highest maximum was Yuma, 97; the lowest maximum, Eastport, 44. The highest minimum was Key West, 57; the lowest minimum, St. Vincent, 24.

The *years of highest maximum and lowest minimum temperatures* are given in the last four columns of Table I of the current REVIEW. During the present month the maximum temperatures were the highest on record in eastern Montana, North and South Dakota, Nebraska, Kansas, Iowa, Missouri, Arkansas, Illinois, Indiana, Ohio, Tennessee, Kentucky, northern Alabama, and Georgia. The minimum temperatures were the lowest on record at Concordia, Eureka, Astoria, and Olympia.

The *greatest daily range of temperature and the extreme monthly range* are given for each of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station. The largest values among the greatest daily ranges were: Bismarck, 56; Concordia and Parkersburg, 50. The smallest values were: Tatoosh Island, 12; Key West, 13. Among the extreme monthly ranges the largest values were: Concordia, 95; Bismarck, 94; Pierre, 92; North Platte, 91. The smallest values were: Tatoosh Island, 21; Key West, 24; Nantucket, 26; Port Angeles, Fort Canby, and Port Eads, 29; San Francisco and Block Island, 30.

The *accumulated monthly departures* from normal temperatures from January 1 to the end of the current month are given in the second column of the following table, and the average departures in the third column, for comparison with the departures of current conditions of vegetation from the normal conditions.

Districts.	Accumulated departures.		Districts.	Accumulated departures.	
	Total.	Average.		Total.	Average.
	°	°		°	°
North Dakota	+ 1.5	+ 0.5	New England	— 4.6	— 1.5
Northern plateau	+ 9.5	+ 3.2	Middle Atlantic	—12.0	— 4.0
North Pacific	+ 2.4	+ 0.8	South Atlantic	—14.1	— 4.7
Middle Pacific	+ 0.3	+ 0.1	Key West	— 9.5	— 3.2
Southern Pacific	+ 0.1	0.0	East Gulf	—15.0	— 5.0
			West Gulf	—12.0	— 4.2
			Ohio Valley and Tenn.	—17.0	— 5.7
			Lower Lake	—14.1	— 4.7
			Upper Lake	— 8.5	— 2.8
			Upper Mississippi	—10.3	— 3.4
			Missouri Valley	— 3.6	— 1.2
			Northern slope	— 4.8	— 1.6
			Middle slope	— 6.4	— 2.1
			Southern slope (Abilene)	—14.1	— 4.7
			Southern plateau	— 2.1	— 2.7
			Middle plateau	— 4.5	— 1.5

The *limit of freezing weather* is shown on Chart VI by the isotherm of minimum 32° and the limit of frost by the isotherm of minimum 40°.

Frosts were reported on the mornings of the 14th, 15th, and 16th, throughout the portion of California situated on the western slope of the Sierra Nevada, and especially the northern portions. In some places this frost was preceded by a hailstorm on the 13th. Great damage was done to the vegetation, especially because the warm weather of February had brought it forward more rapidly than usual. The cold wave swept over the lowland valleys in streaks, leaving certain regions uninjured at the border line where its intensity was dying out. In general, the cold air flowed down from the mountains toward San Francisco nearly parallel to the river valleys. Similar frosts occurred on the 30th in California and the 31st in Arizona. W. H. Hammon, forecast official at San Francisco, says that—

> This frost was not unexpected, and warnings were sent throughout the State. The frost was the result of a cold wave which started from Montana and the Dakotas Sunday, March 10, and which, after sweeping the entire length of California, swung around through Arizona, New Mexico, and Texas. The progress of the cold weather has been carefully watched, and every locality has been warned of its approach.

MOISTURE.

The *quantity of moisture* in the atmosphere at any time may be expressed by means of the weight contained in a cubic foot of air, or by the tension or pressure of the vapor, or by the temperature of the dew-point. The mean dew-points for each station of the Weather Bureau, as deduced from observations made at 8 a. m. and 8 p. m., daily, are given in Table I.

The *rate of evaporation* from a special surface of water on muslin at any moment determines the temperature of the wet-bulb thermometer, but a properly constructed evaporometer may be made to give the *quantity of water evaporated* from a *similar surface* during any interval of time. Such an evaporometer, therefore, would sum up or integrate the effect of those influences that determine the temperature as given by the wet bulb; from this evaporation the average humidity of the air during any given interval of time may be deduced.

It is much to be desired that one or more new series of measurements of evaporation, wind velocity, temperature, and dew-point be made at high and low stations in instrument shelters similar to those used by the Weather Bureau, in order that a general empirical formula may be devised for use with the evaporometer considered as an integrating hygrometer.

The *sensible temperature* experienced by the human body and attributed to the atmosphere depends not merely upon the temperature of the air, but equally upon the dryness and the wind. It would seem that the rapid evaporation from the skin in dry, hot weather reduces the temperature of the layer of nerve cells at the surface of the body. This reduc-

tion, or sensible coolness, may be measured by the difference between the dry and wet bulb thermometers, in which case the resulting sensible temperatures are simply the temperatures of the wet-bulb thermometer as obtained by the whirling apparatus used in the shaded shelter, and correspond to the temperatures felt by persons standing in the shade of trees or houses, exposed to a natural breeze of at least 6 miles per hour. The temperature of the wet-bulb thermometer and its depression below the dry bulb are the fundamental data for all investigations into the relation between human physiology and the atmosphere. In order to present a monthly summary of the atmospheric conditions from a hygienic and physiological point of view, Table VIII has been prepared, showing the maximum, minimum, and mean readings of the wet-bulb thermometer at 8 a. m. and 8 p. m., seventy-fifth meridian time.

PRECIPITATION.

[*In inches and hundredths.*]

The *distribution of precipitation* for the month of March, 1895, as determined by reports from about 2,500 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III.

The precipitation for the current month was heaviest, 6 to 13 inches, on the coasts of Washington and Oregon, but least, averaging less than 0.5, from western Texas north to Manitoba and Saskatchewan.

The *diurnal variation* is shown by Table XII, which gives the total precipitation for each hour of seventy-fifth meridian time, as deduced from self-registering gauges kept at about 43 regular stations of the Weather Bureau; of these 37 are float gauges and 3 are weighing gauges.

The *normal precipitation* for each month is shown in the Atlas of Bulletin C, entitled "Rainfall and Snow of the United States, compiled to the End of 1891, with Annual, Seasonal, Monthly, and other Charts."

The *current departures* from the normal precipitation are given in Table I, which shows that precipitation was deficient over Canada, New England, the Atlantic coast north of Cape Hatteras, southern Florida, the greater part of Mississippi, Louisiana, Arizona, as also the northern part of the United States; it was generally in excess over the central portion of the United States. The large departures from the monthly normal were: excesses, Neah Bay, 5.0; Mobile, 3.1; deficits, Portland, Oreg., 3.2; Chatham, N. B., 3.1.

The *average departure* for each district is given in Table I. By dividing these by the respective normals for this month the following corresponding percentages are obtained (precipitation is in excess when the percentages of the normal exceeds 100):

Above the normal: South Atlantic, 122; Key West, 118; east Gulf, 115; west Gulf, 103; northern slope, 115; north Pacific, 107; south Pacific, 127.

Normal: Missouri Valley, 100.

Below the normal: New England, 81; south Atlantic, 77; Ohio Valley and Tennessee, 73; Lower Lake, 54; Upper Lake, 39; North Dakota, 19; Upper Mississippi, 59; middle slope, 78; Abilene (southern slope), 10; southern plateau, 27; middle plateau, 41; northern plateau, 75; middle Pacific, 66.

The *years of greatest and least precipitation* are given in the REVIEW for March, 1894. The precipitation for the current month was not the greatest on record at any regular station of the Weather Bureau, but it was the least on record at Moorhead, 0.03; Green Bay, 0.41; Kansas City, 0.95; Spokane, 0.57; Carson City, 0.41; Tucson, trace.

The *total accumulated monthly departures* from normal precipitation from the beginning of the year to the end of the current month are given in the second column of the following table; the third column gives the ratio of the current accumulated precipitation to its normal value.

Districts.	Accumulated departures.	Accumulated precipitation.	Districts.	Accumulated departures.	Accumulated precipitation.
	Inches.	*Per ct.*		*Inches.*	*Per ct.*
South Atlantic	+ 2.50	120	New England	— 3.90	68
Key West	+ 2.30	147	Middle Atlantic	— 1.90	83
Northern slope	+ 0.40	122	East Gulf	— 1.30	92
Middle slope	+ 0.20	105	West Gulf	— 2.50	77
South Pacific	+ 2.80	145	Ohio Valley and Tenn.	— 3.60	73
			Lower Lakes	— 2.60	68
Middle plateau	0.00	100	Upper Lakes	— 1.70	73
Southern slope (Abilene)	0.00	100	North Dakota	— 0.80	60
			Upper Mississippi	— 2.70	55
			Missouri Valley	— 1.20	73
			Southern plateau	— 0.40	78
			Northern plateau	— 1.80	70
			North Pacific	— 3.60	85
			Middle Pacific	— 0.60	96

Details as to excessive precipitation are given in Tables XIII and XIV.

The total snowfall at each station is given in Table II.

WIND.

LOCAL STORMS.

Destructive or severe local storms were reported as follows:

3d.—Augusta, Ga., tornado; funnel-shaped cloud.

7th.—Near Alco and Brewton, Ala., windstorms. Pensacola, Fla., thunderstorm.

8th.—Charlotte, N. C., and Knoxville, Tenn., windstorms. Nashville, Tenn., thunderstorm.

10th.—Meade, Kans., thunderstorm; several persons stunned.

13th.—Lindsey, Clayton, and Oneonto, Ala., windstorms. Oxford, La., thunderstorm.

14th.—Montgomery, Ala., thunderstorm. Oneonto, Ala., windstorm.

15th.—Parkersburg, W. Va., sleetstorm.

20th.—Columbus, Ga., rainstorm.

23d.—Hillsboro, Wis., windstorm.

24th.—Franklin, Ky., thunderstorm.

25th.—Altamont, N. Y., windstorm. Pittsburg, Pa., Delaware, Kilbourne, Milfordton, and New Moscow, Ohio, thunderstorms.

26th.—Muncie, Ind., windstorm.

27th.—Wheeling, W. Va., thunderstorm; horse killed by lightning.

28th.—New York, N. Y., windstorm.

30th.—McCune and Versailles, Mo., thunderstorms. Amarillo, Tex., windstorm and small whirlwind. Cheyenne, Wyo., and Denver, Colo., snowstorms.

31st.—Auburn, Nebr., thunderstorm.

The *prevailing winds* for February, 1895, viz, those that were recorded most frequently at Weather Bureau stations, are shown in Table I.

The *resultant winds*, as deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, in connection with the isobars based on the same system of simultaneous observation; the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a wind of average velocity; these figures (or the ratio between them and the total number of observations in this month) indicate the extent to which winds from different directions counterbalanced each other.

Maximum wind velocities of 50 miles or more per hour were reported at regular stations of the Weather Bureau as follows (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles				*Miles*	
Amarillo, Tex	2	52	sw.	Fort Canby, Wash	22	58	s.
Cheyenne, Wyo	22	50	nw.	Do	27	62	se.
Do	23	56	w.	Do	31	50	se.
Chicago, Ill	3	50	ne.	Hatteras, N. C	21	54	n.
Do	4	50	ne.	Huron, S. Dak	21	58	se.
Do	23	50	sw.	Do	22	52	s.
Do	24	50	sw.	Kittyhawk, N. C	8	50	sw.
Dodge City, Kans	30	51	s.	Do	16	52	ne.
El Paso, Tex	15	52	sw.	Do	20	54	n.
Do	29	54	sw.	Do	21	54	n.
Fort Canby, Wash	15	53	se.	Lexington, Ky	8	50	nw.
Do	19	71	se.	New York, N. Y	28	64	nw.
Do	20	56	s.	Tatoosh Island, Wash	2	50	w.
Do	21	72	s.	Winnemucca, Nev	21	52	sw.

SUNSHINE AND CLOUDINESS.

The quantity of sunshine, and therefore of heat, received by the atmosphere, as a whole, is very nearly constant from year to year, but the proportion received by the surface of the earth depends largely upon the absorption by the atmosphere, and varies with the distribution of cloudiness. The sunshine is now recorded automatically at 17 regular stations of the Weather Bureau by its photographic, and at 27 by its thermal effects. The results are given in Table XI for each hour of local, not seventy-fifth meridian, time. The cloudiness is determined by numerous personal observations at all stations during the daytime, and is given in the column of "average cloudiness" in Table I; its complement or clear sky is given in the last column of Table XI.

COMPARISON OF SUNSHINE AND CLEAR SKY.

The sunshine registers give the *duration* of direct sunshine whence the percentage of possible sunshine is derived; the observer's personal estimates give the percentage of *area* of clear sky. It should not be assumed that these numbers should agree, and for comparative purposes they have been brought together, side by side, in the following table, from which it appears that, in general, the instrumental record of percentages of duration of sunshine is almost always larger than the observer's personal estimates of percentages of area of clear sky; the average excess for March, 1895, is 7 per cent for photographic records, and 13 per cent for thermometric records. The details are shown in the following table:

Difference between instrumental and personal observations of sunshine for March, 1895.

Photographic stations.	Instrumental.	Personal.	Difference.	Thermometric stations.	Instrumental.	Personal.	Difference.
Tucson, Ariz	80	64	16	Key West, Fla	83	65	18
Santa Fe, N. Mex	75	57	18	Marquette, Mich	82	44	38
Denver, Colo	72	59	13	Baltimore, Md	70	53	17
Dodge City, Kans	72	61	11	St. Louis, Mo	69	55	14
Kansas City, Mo	65	54	11	Chicago, Ill	68	60	8
Helena, Mont	61	57	4	Portland, Me	68	42	26
Salt Lake City, Utah*	61	39	22	San Francisco, Cal	68	49	19
San Diego, Cal	59	62	— 3	Atlanta, Ga	65	50	15
Savannah, Ga	58	54	4	Des Moines, Iowa	64	49	15
Bismarck, N. Dak	57	58	— 1	Vicksburg, Miss	63	60	3
Cincinnati, Ohio	57	48	9	Salt Lake City, Utah*	62	39	23
Spokane, Wash	53	35	18	New York, N. Y	62	44	18
Galveston, Tex	52	55	— 3	New Haven, Conn	61	52	9
Eastport, Me	51	37	14	Norfolk, Va	61	55	6
Memphis, Tenn	49	47	2	Washington, D. C	59	50	9
Portland, Oreg.*	46	46	0	Boston, Mass	58	43	15
Cleveland, Ohio	40	44	— 4	Detroit, Mich	58	46	12
				Louisville, Ky	57	46	11
				Philadelphia, Pa	57	46	11
				Rochester, N. Y	57	55	2
				Columbus, Ohio	56	40	16
				Buffalo, N. Y	55	40	15
				New Orleans, La	54	54	0
				Wilmington, N. C	53	53	0
				Little Rock, Ark	52	45	7
				Portland, Oreg.*	48	46	2
				Seattle, Wash	46	35	11

* Records kept by both registers.

ATMOSPHERIC ELECTRICITY.

The statistics relative to auroras and thunderstorms are given in Table X, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

The dates on which reports of thunderstorms for the whole country were most numerous were: 8th, 60; 12th, 63; 13th, 59; 14th, 65; 25th, 147; 30th, 109; 31st, 97. Thunderstorms were most numerous in Ohio, Missouri, Mississippi, South Carolina, Alabama, Georgia, Louisiana, Pennsylvania, Florida, and Texas. Thunderstorm days were most frequent in Ohio, where they numbered 16; Arkansas, 13; Alabama, Mississippi, and South Carolina, 12; North Carolina and Tennessee, 11. *Severe thunderstorms* are especially mentioned under "Local Storms."

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, from the 6th to the 14th, inclusive. On the remaining twenty-two days of this month 241 reports were received, or an average of about 11 per day. The dates on which the reported number especially exceeded this average were: 13th, 17; 14th, 36; 16th, 59; 22d, 16.

Auroras were reported by a large percentage of observers in Maine, Minnesota, New Hampshire, New York, North Dakota, South Dakota, and Wisconsin.

Auroras were most frequent in: Wisconsin, on eighteen days; Minnesota, on fourteen days; North Dakota, on ten days.

CANADIAN DATA—THUNDERSTORMS AND AURORAS.

Thunderstorms were reported at Port Stanley, 24th, 25th, and 31st, and at Medicine Hat, 28th.

Auroras were reported as follows: 1st, Winnipeg, Minnedosa, and Prince Albert. 3d, White River, Winnipeg, and Minnedosa. 11th, Prince Albert. 12th, Minnedosa and Prince Albert. 13th, Quebec, Minnedosa, and Medicine Hat. 14th, St. Andrews, Father Point, Quebec, Kingston, Rockliffe, Port Stanley, Winnipeg, Minnedosa, Qu'Appelle, Medicine Hat, and Prince Albert. 15th, Father Point, Quebec, Rockliffe, Winnipeg, and Minnedosa. 16th, Father Point, Quebec, Rockliffe, Kingston, Port Arthur, Winnipeg, Minnedosa, Qu'Appelle, Medicine Hat, and Prince Albert. 17th, Father Point, White River, Port Arthur, and Medicine Hat. 18th, Kingston, Winnipeg, and Minnedosa. 20th, St. Andrews, Father Point, and Quebec. 21st, White River. 22d, Grand Manan, St. Andrews, Father Point, Montreal, Kingston, and Minnedosa. 23d, Father Point and White River. 24th, Father Point, Winnipeg, and Minnedosa. 25th, White River and Minnedosa. 26th, Winnipeg and Minnedosa. 28th, White River. 29th. Quebec and Medicine Hat. 30th, St. Andrews, Quebec, and Medicine Hat. 31st, Winnipeg and Battleford.

METEOROLOGY AND MAGNETISM.

By Prof. FRANK H. BIGELOW.

For general remarks relative to this subject see page 7 of the REVIEW for January, 1895.

The comparison of the air temperature with magnetic horizontal force is shown in detail on Chart V, and the special features of the March curves are as follows:

SPECIAL FEATURES OF THE MARCH CURVES.

The temperatures and also the magnetic force observations need no correction for slope; the amplitudes are not modified; the reduction to a zero datum line for temperatures is +2 and for the horizontal magnetic force is —2. The new magnetic solar period begins March 11.80. If the more accurate period, 26.67928, is used instead of 26.68 days, for which the published ephemeris was constructed, the correction from the latter to the former for the year 1895 is 0.08 day.

Unfortunately for the purposes of this comparison the magnetic observatory at San Antonio suspended its operations about the first of March. We can therefore utilize only the readings of the instruments at Toronto and Washington.

INLAND NAVIGATION.

The *extreme and average stages of water* in the rivers during the current month are given in Table VII. The only river that was above the danger line was the Tennessee, at Johnsonville, on the 23d. The following rivers rose to nearly that point: the Ohio, at Evansville, 23d; the Congaree, at Columbia, 16th, and the Savannah, at Augusta, 17th.

The *thickness of ice* in rivers and harbors is given in the weekly bulletin of "Snow on the Ground" during the winter months. On Monday, March 25, the Missouri river was open for some distance above Pierre, but above that there was reported 26 inches of ice at Bismarck and 33 inches at Williston. The Ohio was just clearing out at Pittsburg. At the Lake stations the reports showed 24 inches in the harbor and 12 in the lake at Duluth; none at Marquette; 22 at Sault Ste. Marie, and no fast ice at Milwaukee and Grand Haven; Alpena, 0.5; Port Huron, 5.0; Detroit, 6; Erie, 3; Rochester, 14; Oswego, 16.5.

STATE WEATHER SERVICES.

The following extracts are taken from the reviews published by the services of the respective States; occasional notes in brackets are added by the Editor:

Alabama.—Up to the 20th the month was cold and generally unfavorable; severe local windstorms occurred in different parts of the State on the 7th and again on the 20th; the heavy rains of the middle of the month caused very high rivers, amounting almost to floods in some places. The last ten days were generally warm and pleasant and favorable to all farm work, which has been pushed very rapidly. Rainfall was 1.83 more than the normal for the month.

Arizona.—The monthly mean temperature was 1.5° above normal; the precipitation was 1 inch below normal; the average weather was 18 clear days, 8 partly cloudy, 5 cloudy, and 1 rainy.

Arkansas.—The mean temperature for the month was 0.6° above the normal. For the first two decades the temperature was generally below the normal; after the 21st it was above the normal to the end of the month. The highest temperature ever recorded in the State in March occured at Keesees Ferry, Marion County, on the 28th, when the maximum thermometer registered 91°. The average precipitation for the State was 0.41 inch above the normal. There was no snowfall during the month, except traces at Corning, Fayetteville, and Keesees Ferry.

California.—The month was deficient in both temperature and rainfall. The severe frosts of 14th, 15th, 29th, and 30th did considerable damage to the almonds, the early cherries, and especially to the apricots, which will considerably decrease the yield. Several fine orchards that had escaped the frost of the 14th and 15th were nearly destroyed by the frost of the 29th. All other fruits will be abundant. The grain prospects continue good in all quarters of the State where raised. The abnormal weather of February had advanced the growth of fruits at least ten days earlier than usual, which was the cause of the damage done by this month's frosts.

Colorado.—The monthly mean temperature was 1°, and the average daily temperature from 5° to 7° below the normal for March. Precipitation was most general from 13th to the 15th, and on the 29th, 30th, and 31st. It was above the average in the north-central section and on the Divide, while in the San Luis Valley there was little or none, and a deficiency was also reported from the extreme eastern and southern countries and the western slope.

Connecticut.—(See *New England.*)

Delaware.—(See *Maryland.*)

District of Columbia.—(See *Maryland.*)

Florida.—There was no marked departure from normal conditions during the month. A moderate cold wave occurred in the first week, but only two stations reported temperatures below the freezing point and very little damage was done to vegetation. A cool wave in the third week of the month was accompanied by light frosts in some of the northern counties, but no injury resulted except the retarding effect on vegetable growth. The mean precipitation for the month was 0.84 inch below the normal for the State.

Georgia.—The month was marked by no unusual severe storms. The State was visited by several cold waves, the most noticeable of which took effect on the mornings of the 16th and 17th, and on the latter date caused the temperature to fall below or near freezing in the most southerly counties. The average temperature of the month for the State as a whole varied but little from the seasonal normal. The precipitation was less than a half inch below the normal.

Idaho.—The current month was generally fair, with light precipitation, until the 20th, when stormy conditions became general until the 23d. Rain or snow was reported in all sections from the 27th to the 29th.

Illinois.—The current month was ordinary and nearly normal, excepting for the great deficiency of precipitation (nearly or quite 2 inches), but the general rain of the 30th and 31st diminished this deficiency to 0.40 of an inch. The average temperature for the month was 1.4° above the normal as a consequence of the gradually increasing warmth from the 17th to the 30th, the 29th proving in many counties the warmest March day on record. The coolness of the first part of the month made the coming of spring seem late, but it must certainly be considered favorable, for it has made the danger of killing frosts more remote.

Indiana.—The average temperature for the State was very near normal; a slight excess is noted for the central and southern portions. Frosts were quite frequent, and ice formed on several nights. The drought continued during the month, and precipitation, mostly in the form of snow, fell in small quantities. The drought and cold weather checked the growth of the crops and delayed farm work. Some oats were sown, but little plowing for corn was done, and only a few gardens were made. Finally, rains and warmer weather caused wheat, rye, and grass to recover, and at the end of the month these crops were turning green and were in fair condition, promising good harvests.

Iowa.—The daily mean temperature was below normal during the first and second decades, but considerably above in the third. The average precipitation was 1.20 below the normal. This prevailing dry weather and the high winds which are characteristic of March caused severe and somewhat damaging duststorms on a number of days during the latter half of the month.

Kansas.—This current month was the reverse of March, 1894, respecting its warm days. The first twenty-one days being cool, when there was an accumulated deficiency of 86° at the central station; the temperature then rose rapidly, and at the end of the month there was an accumulated *excess* of 86°, making an average excess for the last ten days of 17° per day at Topeka. This was a comparatively dry month, there being an average deficiency of rainfall over the State of 0.62.

Kentucky.—The mean temperature of the current month was exactly normal, as determined from data taken from the records of the Weather Bureau stations at Louisville, Cairo, Cincinnati, and Lexington, and covering periods ranging from twelve to twenty-four years. There was a remarkable uniformity in the mean temperatures reported from different sections of the State. No periods of unusually severe cold occurred, but during the closing days of the month the highest temperatures within twenty-five years were recorded. Precipitation was deficient by little less than an inch, owing to its even distribution; however, it was abundant for all agricultural purposes.

Louisiana.—The current month, considering the State as a whole, averaged nearly 2° warmer than normal. Precipitation was about four-tenths of an inch more than usual. Frost occurred as far south as New Orleans on the 3d, and in various portions of the interior and northern parishes on the 5th, 17th, and 21st. The weather was, in general, favorable to agriculture, although in some portions of the State the crops are nearly a month late.

Maine.—(See *New England.*)

Maryland.—This was not a remarkable month as regards storms, temperature, or precipitation, although it varied considerably from the normal in some respects. Although the 9 anticyclones were outnumbered by the 10 cyclones, yet the influence of the former was somewhat the stronger, as indicated by the excess of fair days over rainy days, the considerable deficiency in rainfall, and the minus departure of temperature of from 1° to 2° per day.

Massachusetts.—(See *New England.*)

Michigan.—The monthly mean temperature was 3.8° below the normal. Every station in the State had a deficiency of precipitation, making the month a very dry one. The average snowfall was 6.0 inches. Clear weather prevailed in most sections of the State on the night of the 10th, and a majority of the observers noted the total eclipse of the moon.

Minnesota.—The month was especially noted for the almost total absence of any snow covering on the ground and the deficient precipitation, which was less than a third of the usual amount. High winds were frequent during the last decade, which, besides raising clouds of dust, also accelerated evaporation, causing the top soil to become exceedingly dry and, therefore, more susceptible to temperature changes. The only vegetation to be harmed, however, is a comparatively small amount of winter grain and fruit, and it is as yet too early to determine the amount of the injury sustained.

Mississippi.—High winds and cold and rainy weather prevailed for the most part during March until the 25th, rains being of almost daily occurrence until the 21st, after which dry, sunshiny weather lasted until the 30th. The cold and wet weather of the first two decades prevented any extensive farming operations, but good headway was made during the succeeding ten days. It was generally admitted that at the close of the month farm work was from two to three weeks behind time in all portions of the State.

Missouri.—The temperature was below the normal the greater part of the time until the 21st, but for the remainder of the month the weather was unusually warm. During the last decade of the month the soil was in good condition to work, except in a few localities in the southern and central counties, where the heavy rains and snows had made it too wet, and by the 31st a large part of the oat crop had been sown, early gardens made, and some plowing done for corn. In some counties in the northern sections wheat was injured by drought and by drying winds during the last decade, and water continued very scarce in many localities.

Montana.—The temperature for the month was about 3° above the normal, while precipitation was about 0.21 inch below. The average number of clear days was 14; partly cloudy, 10; cloudy, 7. The coldest weather occurred from the 12th to 15th, and the warmest from the 25th to 28th.

Nebraska.—This was a rather dry month, with a mean temperature somewhat higher than usual. The extremes of temperature were considerable, ranging from 94° to —21°. The former is the highest temperature for March shown by our records, excepting in 1893, when it reached 96°, and the latter is also the lowest, excepting in 1891, when the temperature fell to —38°. The monthly mean temperature was a little more than a degree above the normal. Precipitation for the State averaged little more than half the normal amount.

Nevada.—During the month both the temperature and the precipitation were below the normal. The snowfall was less than normal, but came in rather well-distributed amounts. No farming operations, comparatively speaking, had commenced by the close of the month, plowing and seeding being retarded by the unusually low minimum temperatures which occurred during the nights. The cold weather has been very beneficial to the fruit prospect, delaying the budding and lessening to a great extent the liability to damage from late frosts. This has been a good year for cattle. Grass is now in excellent condition all over the State, and the stock which were turned out last month have been doing well.

New England.—The average temperature for the month was 0.6° below the normal. Many observers in the central and northwestern sections report it one of the coldest Marches on record. There was a good covering of snow in the fields at the end of the month and from 1 to 2 feet in the woods of the northern counties. Some correspondents report slight injury to the peaches in Massachusetts during the cold spell in February, but at present there is every promise of an immense crop of this fruit throughout New England. Other fruits have wintered well, except where raspberry bushes have been frozen above the snow covering. In the northern portions no farm work has been done and in the southern part the season is considered fully ten days behind the average.

New Hampshire.—(See *New England.*)

New Jersey.—The current monthly mean temperature and precipitation were both below the normal. Farming operations have not yet begun.

New Mexico.—The current monthly mean temperature averaged about the normal, probably a little below. The precipitation averaged considerably below the normal and was quite unevenly divided. The wind averaged light, considering that it is the most windy month of the year.

New York.—The average of the mean temperatures at 26 stations possessing records for previous years was 3.1° below the normal. The deficiencies were most marked in the northern and western parts of the State. The average precipitation at these stations was 1.03 inch below; average snowfall, 9.3 inches. The severest storms occurred on the 17th and 28th. The unusually high velocity of 64 miles per hour was recorded at New York on the latter date. Rain or snow fell in some portion of the State every day until the 16th and from the 24th to 31st, the intervening week being fair. Ice also continued in the upper Hudson River after the 31st.

North Carolina.—Although the monthly mean temperature was nearly exactly normal, March made the impression of being a cold, wet, disagreeable month on account of the frequent rains for the first three weeks; the last ten days were dry and warmer, the maximum temperatures approaching very near the high records of March, 1894. At the end of the month vegetation was very backward; forests not yet green and farming operations hardly begun. The precipitation was only 0.37 above the normal and very evenly distributed. The eclipse of the moon (total) was generally visible over the State, being obscured by clouds at a few places. A slight shock of earthquake on the 4th was reported by two observers in the western counties.

North Dakota.—The current March will be known as one of the driest months ever experienced in North Dakota, the precipitation for the State only averaging 0.16 of an inch. An examination of all records obtainable show that this is less than was ever recorded before in this State. The temperature was slightly higher than the average and the entire month was warm, with the exception of the 12th and 13th, when a cold wave passed over the State. At the end of the month no snow remained on the ground. Farming operations had not generally begun, although many farmers were plowing during the last ten days of the month and some seeding was done.

Ohio.—The month of March averaged only slightly below the normal as to temperature, but was decidedly below as to precipitation. The crops generally suffered from the drought and were needing rain badly

at the close of the month. As a whole the month was unfavorable and injurious to cereals and delayed the commencement of farm work by the continued low night temperatures freezing the ground and preventing its cultivation.

Oklahoma.—The temperature for March was about 3° above the normal; precipitation 1.34 of an inch below. At Buffalo, during a thunderstorm on the 10th, lightning set fire to the prairie 3 miles northeast of town and about 5,000 acres were burned over before the fire was put out by back firing. Another terrible fire extended both north and south of this town, by which many thousands of acres were burned over, feed, stacked hay, sorghum, and berries being destroyed.

Oregon.—Normal weather conditions prevailed during the current month, the mean temperature for the State being only 0.1° below the average, and 3.3° colder than the warmest March in the past six years. Precipitation, 0.10 inch below the normal. The sunshine was abundant throughout the State the first eighteen days, except the 11th and 12th. The days were quite warm and the nights not so cool as usual, so that the buds began to swell; even the several killing frosts did very little, if any, damage to the growing vegetation. Spring plowing and seeding were well advanced by the end of March and crops of all kinds in good condition. . Lambing advancing rapidly and a large crop looked for. The date of general bloom of the fruit trees can safely be put down as March 25, though in some sections even earlier bloom prevailed.

Pennsylvania.—The average temperature for the month was 1.5° below the normal for the past seven years, and the average precipitation 1.26 inch below the normal for the same length of time. At the close of the month grain and grass appear to have wintered well, but all vegetation is backward, with but few signs of spring.

Rhode Island.—(See *New England.*)

South Carolina.—The current month was cooler than usual during the first half and warmer during the remainder, making the average temperature nearly normal. The rainfall was 1.25 inch in excess of the normal, and well distributed over the entire State. From the 20th to the end of the month but little or no rain fell. The excessive rainfall greatly interfered with farm work until this date, after which it progressed rapidly under favorable conditions.

South Dakota.—The first half of the month was cold and unseasonable, the remainder generally mild and more seasonable. Brisk to high winds prevailed much of the time, with a deficiency in precipitation over much of the State, rendering the top soil of plowed ground very dry and retarding seeding. The drought was succeeded generally by good rains and snows the last of the month, putting the ground in excellent condition for farm work.

Tennessee.—During the first three weeks of March abnormally low temperature and frequent rains retarded all farm work and prevented the growth of vegetation. The abnormally low temperatures and excessive rainfall of the first three weeks were followed by very warm weather in the last week, which caused vegetation to put forth rapidly and practically opened the crop season of 1895. The prospects are still favorable for a large yield of fruits of all kinds.

Texas.—The temperature on an average for the State was 0.8° below the normal. The greatest deficiency was in the vicinity of Houston. The average precipitation was 0.62 inch below and not very well distributed. Farming operations are from one to two weeks late in comparison with past years' records, except cotton planting, which was apparently only five to eight days late at the close of the month. The crop prospects are good all over the State and the fruit trees are generally blooming nicely, with prospects for a good crop.

Utah.—The monthly mean temperature for the Territory was 5° below the normal; precipitation was also below. Two severe blizzards reported from Heber. Spring generally backward.

Vermont.—(See *New England.*)

Virginia.—Average monthly mean temperature for the current month 1.4° below the normal and precipitation about the normal for the State, being generally slightly above near the coast and least in the northern section. The prevailing rains and cool weather generally prevented farm work and preparation for spring crops until about and after the 25th, so that such work was thus thrown two or three weeks behind the average season. This was specially noticeable in the trucking sections. The generally cool temperature kept back the fruit bloom during the month, and thus increased the probability of a good fruit crop.

Washington.—The peculiar feature of the current month was the dry, warm, delightful weather of the first ten days, otherwise it was not an exceptionally warm month, the mean temperature being about the same as the normal for several years and the total rainfall not far below. In the western section the average temperature was lower than that of February, but in the eastern it was warmer. With the warm days at the beginning of the month the snow went off early and the farmers improved the chance to plow and prepare land for spring seeding, of which latter much was done. The heavy frosts of the 15th froze out considerable winter wheat, which had to be resown. There were no very severe gales, although the month was somewhat windy.

West Virginia.—The mean temperature for March was about 2° below the normal and the average rainfall about 0.25 inch below. Rain or snow fell at points within the State every day except the 30th and 31st.

Wisconsin.—The first half of the current month was unusually cold, with zero temperatures occurring at frequent intervals up to the 15th. The month was extremely dry, the average rainfall being 0.50 of an inch, or 1.5 inch less than the normal for March. Most of the precipitation occurred in the form of snow. The usual spring rains were missing, and, as a consequence, the lack of moisture was felt quite severely in some sections and retarded the thawing out of the soil.

Wyoming.—The mean temperature for the month was slightly below the March normal and the average amount of precipitation was considerably above the March normal. Grass starting and cottonwood trees beginning to bud.

STUDIES BY FORECAST OFFICIALS.

I.—LOWS NORTH OF IDAHO AND MONTANA.

By Prof. H. A. HAZEN (dated August 21, 1893).

The following is a report "on the probable effect of the occurrence during September of low pressure areas to the north of Idaho and Montana in determining the weather conditions in the Upper Mississippi Valley and Upper Lake region within the next thirty-six to forty-eight hours."

In the following statement a careful study has been made of the three-times-daily and twice-daily manuscript maps of the forecast division for the 16 Septembers from 1877 to 1892. In this report a small subscript figure indicates the map used, whether a. m. ($_1$), p. m. ($_2$), or night ($_3$). Since 1888 there have been only two maps, a. m. ($_1$) and p. m. ($_2$).

DESCRIPTION OF THE MAPS.

1877.

Sept. 6_1. Low in Montana; slow motion.
9_1. Moved to north Missouri.
9_3. In Illinois.
10_1. In Indiana; rain in Lower Lakes; none in upper.

1878.

Sept. 7_1. Low in Dakota; slow motion.
9_2. Rain in Upper Lakes.
17_3. Low in Dakota.
19_1. Moved to Upper Lakes, with rain.
23_2. Low in Montana.
24_1. In western Iowa; first rain in Upper Lakes.

1879.

Sept. 8_2. Low near Montana; slow motion.
11_2. Moved to eastern Minnesota, with rain.

1880.

Sept. 18–21. Marked low moving from north of Montana to north of Lakes; no rain. High to southeast, and later to south and southwest.
24–27. Another low above Lakes without rain.

1881.

Sept. 8_2. In Montana.
9_3. Rain at St. Paul.
10_1. Rain, 1.31, La Crosse; 1.37, Omaha; 1.02, Dubuque.
13_2. Trough from Manitoba to Texas.
15_3. Formed or collected in a single storm in Indiana.
16_1. Western Wisconsin.
16_3. Northern Minnesota.
17_2. In Manitoba, moving a little northwest; heavy rain.
22_3. Northern Montana.
24_1. Minnesota; rain Upper Lakes; none lower.
25_3. In eastern Montana with trough south. General storm from Lakes to Texas with highs southeast and northwest.

Sept. 28_1. In Montana; moved slowly to the north of Upper Lakes.
30_2. No rain.

1882.

Sept. 10_1. Low in Montana; moving very slowly; no rain in Upper Lakes.
13_2. Low in Montana.
18_2. Reached Upper Lakes, where there was light rain.

1883.

Sept. 2_2. Low north of Montana.
3_2. Upper Lakes; no rain; moved north of Lakes with traces of rain only.
5_1. Low north of Montana.
6_2. Moved to eastern Dakota.
6_2. To southern Minnesota; rain in Upper Mississippi and Lakes.
8_1. North of Montana; very slow motion.
13_2. Trough from Manitoba to Texas; rain at St. Paul; did not develop.
14_1. North of Montana.
15_2. In northern Minnesota; light rain Upper Lakes.
17_1. North of Montana.
20_1. Trough from Minnesota to Texas; no rain.
25_1. North of Montana.
26_2. Lake Superior; no rain; high southeast.

1884.

Sept. 20_1. North of Montana.
21_2. Lake Superior; no rain.
21_2. Light rain rear of this storm.
26_2. North of Montana.
27_2. Formed trough with low in Kansas.
28_2. Merged in single low north of Lakes; rain from Lower Lakes east.

1885.

Sept. 1_2. North of Montana.
2_2. North of Lake Superior; light rain at St. Paul.
9_2. North of Idaho.
11_2. Trough from north of Montana to Colorado.
11_2. Developed in a storm in eastern Dakota; rain in Upper Mississippi.
12_1. Rain on Upper Lakes; low remained north of Dakota till 13th.
13_2. No rain; moved north of Lakes.
14_2. No rain.
19_1. In Montana.
20_2. North of Lakes; no rain.
21_2. North of Montana.
21_2. Upper Lakes; no rain.
22_2. North of Montana.
26_1. Upper Lakes; no rain.
27_2. North of Montana.
28_2. In northern Minnesota; 0.03, La Crosse.

1886.

Sept. 8_1. Low north of Montana.
9_2. In Manitoba.
9_2. Upper Lakes; rain.

1887.

Sept. 5_1. Low north of Montana (ill defined).
6_2. Over Lake Superior; light rain.
9_2. Low north of Montana.
12_2. Moved to Manitoba; rain on Upper Lakes.
25_2. Trough from Montana to Texas.
30_2. Most of rain due to Gulf cyclone.

1888.

Sept. 4_2. Low in Montana; moving slowly.
7_1. In Manitoba, with rain in Upper Lakes.
Sept. 11_2. North of Montana; slow motion.
15_1. Lake Superior.
15_2. Trough to Gulf which gives light rain.
25_1. North of Montana.
26_1. Lake Superior; light rain.

1889.

Sept. 2_1. North of Montana.
4_1. Trough from Minnesota to northern Texas; light scattered rain.
27_2. Disturbed region north of Montana.
29_2. Moved to Manitoba.
30_1. Sprinkle of rain southeast of low.

1890.

Sept. 1_1. Low in Nebraska.
4_1. Moved to Manitoba; light rain. No low to north of Idaho and Montana this month.

1891.

Sept. 9_1. Low in Montana.
12_1. Moved to Upper Lakes; light rain.
24_2. North of Montana; very slow.
27_2. In Dakota; sprinkle.

1892.

Sept. 8_2. Low north of Montana.
9_2. Trough from Dakota to Kansas; sprinkle.
22_2. Low north of Montana.
25_1. Moved to Upper Lakes, with light rain.

CONCLUSIONS.

The above facts lead to the following conclusions:

1. The motion of lows in the extreme northwest is very markedly affected by the position of high areas to the east and southeast. In general, this motion is remarkably slow, often requiring three, four, or more days to reach the Upper Mississippi Valley and Upper Lake region.

2. The amount of rain from well-defined lows in the extreme northwest is very small, probably not more than 5 per cent, or at most 10 per cent, of the total in the regions under consideration.

3. When this low forms a trough to the south, or when it moves first toward southeast and northeast, there is a good deal of rain usually. This motion is usually very slow.

4. It is not at all possible to forecast rain for the Upper Mississippi and Upper Lakes when a low appears in the extreme northwest. In general, if the motion is to the north of the Upper Lakes there will be no rain or only sprinkles. In some cases, with a strong north or northwest wind in the rear of a low, rain may be expected for the Upper Mississippi Valley, but this forecast must be made with great caution.

APPENDIX.

While investigating the above points it was decided to pay particular attention to the cause of abnormally dry or wet months.

The greatest dryness ensues when a well-marked high moves across the country from Dakota to Florida. A second cause of dryness is when a high area is rather permanent over any region. When a low area is followed by a high, if the after-winds are north or northwest, the tendency is toward a ragged clearing up, but if the after-wind is southwest there will be a quick clearing.

The heaviest rainfalls occur in connection with low areas coming from the Gulf and passing either directly over the region or to the south of it. The next heaviest are produced by troughs running nearly north and south and moving broadside on. In many cases heavy rains occur with a high area to the north and a disturbed region to the south but without a well-defined storm.

1877.

Dry.—Cause: 1st, highs moved from northwest to south-

east; 2d, a few highs moved slowly over the Lakes and swung around to the southeast on the Atlantic coast; 3d, lows starting in the west filled up before reaching the Lakes.

1878.

Wet.—Cause: 1st, much rain came from Gulf cyclones; 2d, there seemed to be also a locus of low areas in Minnesota.

1882.

Dry.—Due to the persistency of high areas over the Lake region and just a little south.

1886.

Wet.—Due, 1st, to a tendency to a permanent low area much disturbed in the north; 2d, most rain from troughs reaching across country to Texas and Gulf; 3d, there was a permanent and well-marked high area over the south Atlantic, and this may have assisted in giving rain in connection with the northern low disturbed region.

1888.

Dry.—Due to a passage of high after high over the Lakes and to a delay or sluggishness of highs as they moved alone.

1890.

Wet.—Due, 1st, to a disturbed region over the Lakes; 2d, some troughs; 3d, marked storms passed over the Lakes; 4th, there seemed a remarkable tendency to rain from north winds blowing out of highs but without any storm conditions to south.

1891.

Dry.—It is an interesting fact that the monthly mean isobars and wind directions for 1891 are almost exactly the same as for 1878 and 1890, both of which were very wet. Cause: 1st, wide extended highs moved over the Lakes and then to the south Atlantic States. The high in this region can hardly be said to have been permanent as in the wet September of 1886, but it was rather continually added to by fresh and dry highs coming from the north, i. e., the permanency was not sufficient to cause a strong flow of rather damp air from the Ocean or Gulf northward; 2d, there was a rather persistent low in the extreme northwest, from which, however, very few disturbed areas passed out, but these drew up the dry, warm air from the south; 3d, winds were mostly south and dry from dry highs.

It is not thought that there is much that is new in what has gone before. It is rather a collection of views which have been picked up from time to time but now brought together. It is impossible to lay down any but the broadest generalizations. Each map will need a treatment by itself, especially when any one map happens to show a combination of all or nearly all the points here assembled from a study of 1,290 maps.

II.—THE CONNECTION BETWEEN SUN SPOTS AND THE WEATHER.

By Prof. FRANK H. BIGELOW (written in July, 1895).

At the request of the Chief of the Weather Bureau an attempt was made in June, 1894, to take photographs of the sun spots on clear days. The only telescope available for this work was a 4-inch Clark visual objective, and, after some experiments, it was concluded that the pictures thus obtained were not sufficiently superior to screen diagrams to justify the time and labor of making them. Accordingly the series for the past year consists of hand-drawn diagrams of the approximate relative positions and sizes of the spots, the diameter of the image of the sun being 85 millimeters.

In order to determine whether there is any law that controls the production of spots on the several meridians of the sun, it is necessary to resort to a long series of observations. For this purpose the Carrington "Observations of the Spots on the Sun, November, 1853, to March, 1861, made at Redhill;" the "Beobachtungen der Sonnenflecken zu Anclam und Potsdam, von G. Spörer, January, 1861, to December, 1879;" the "Photographic Results of the Greenwich Observatory, 1878 to 1891" (the last volume received), are available. The gap—1892 to June, 1894—has not been conveniently filled, though it can be done in due time. If spots have a tendency to form on certain solar meridians, then, in order to classify these as they appear, rotation after rotation, it is necessary to know the exact period of the rotation of the sun itself. In the October number, 1893, of Astronomy and Astrophysics, I published (page 9) my final result of the discussion of the periodic action in the European magnetic field, namely, 26.67928 days, and have in other places explained its connection with the sun's angular motion at the equator. This period has been tested, so that it can now be stated that the same periodic action was found in 1841 and other years up to 1895 and that this period, departing from the epoch June 12.22, 1887, does not fall short more than one-tenth of a day in fifty years. The spots have been grouped according to the accurate ephemeris instead of using the approximation 26.68.

Since the Carrington and Spörer series, and the Spörer and Greenwich series each overlap each other a little, it is possible to reduce the diagrams of Carrington and Spörer to the scale of the Greenwich series, so that a set of numbers, consistent, from 1854 to 1895, can be tabulated to show the amount of spotted areas that have occurred on the several days of the 26.68-day period in about forty years. A result that shows a definite tendency to group the spots on certain meridians becomes at once a test of the value of this period, and also points to many conclusions important in solar physics, terrestrial physics, and meteorology. For convenience the unit of area is the one hundred thousandth of the visible surface instead of one millionth. Each spot area is entered once for all, either as occurring on the central meridian or else at a date whose interval from this meridian can be computed from the available data. Hence, the tables show the total area of the sun-spot groups for forty years, arranged strictly in the 26.68-day period. The Northern and the Southern Hemispheres were kept separate throughout the compilation, and the final sums are wholly independent of each other.

The table and diagram (see Chart IX) give the sums for each of the four series specified and the sum of all, and also the curves displaying this last summation.

In plotting the curves for the Northern and the Southern Hemispheres it is seen that they are inverted curves of the same type. On comparing them with the magnetic curve derived from the European magnetic field (Amer. Met. Journ., January, 1895), it is clear that the sun-spot curve for the Southern Hemisphere gives back the *direct* type, and the sun-spot curve for the Northern Hemisphere the *inverse* type of the terrestrial magnetic curve. This computation has been arranged throughout on the ephemeris with epoch June 12.22, 1887. The curves of the accompanying diagrams give the magnetic field direct for the Southern Hemisphere, and inverted for the Northern Hemisphere. The number and sequence of the maxima and minima, in spite of some looseness in the curves, point unmistakably to a fundamental physical process.

It will be remembered (Amer. Journ. Sci., Dec., 1894,) that this same primary periodic curve was found in the temperatures of the American meteorological system, together with the phenomenon of inversion, for which no cause was assigned. The lines of force of the solar magnetic field as they pass through the earth have been fully explained (Amer. Journ. Sci., Aug., 1895). The discussion of the sun-spot formations, herewith presented, makes it evident that during certain intervals the atmosphere of the earth is under the controlling influence of the southern magnetic hemisphere of the sun; and again, the transition being usually abrupt, it is under the

control of the northern hemisphere of the sun. Since the sequence or procession of the highs and lows crossing the United States corresponds always to either the direct or the inverse types, allowing for the inevitable looseness of structure in the circulation, it follows that the solar action has the power to invert the entire atmospheric movement, not only in the United States but also over the whole hemisphere of the earth (Amer. Met. Journ., Sept., 1893, curve 15). The inference seems very simple that if this polar magnetic field can maintain an order of highs and lows and can invert the order, then this magnetic field either directly or indirectly is chiefly concerned in the production of the cyclonic and anticyclonic systems. By as much as this is true, grave doubt is thrown upon the soundness of the convectional hypothesis of Ferrel, and the dynamic or driven-eddy theory of Hann to account for our primary meteorological phenomenon. The truth seems to be that the atmosphere of the earth is under the influence of four great systems of impressed forces:

1. The stress of the earth's gravitation.
2. The deflecting forces of the earth's rotation.
3. The equatorial radiant energy of the electromagnetic field.
4. The polar magnetic radiant energy from the polar regions of the sun.

The first and second are constant forces; the third has a steady diurnal and annual period from astronomical conditions; the fourth is very variable and loosely constructed, depending upon solar action, and yet is the system by which weather conditions are chiefly produced. Heretofore the meteorological problem has sought its solution by combinations of the three systems of forces mentioned, but it is clear that one of the most influential sets of impressed forces has been entirely neglected.

SPECIAL CONTRIBUTIONS.

I.—TORNADO, MARCH 26, AT ALBANY, N. Y.

Mr. Alfred F. Sims, Weather Bureau observer at Albany, N. Y., reports on the tornado of March 26, at that place, as follows:

Thunder first heard 2.58 p. m.; loudest, 3.06 p. m.; last heard, 3.06 p. m. Storm came from southwest, moved southeastward to the Hudson River south of station, thence north. Temperature before storm, 47°; temperature afterward, 43°; direction of wind before, south; afterward, south. At 2.50 p. m. the clouds to the north and west of this station assumed a slate color, and at 2.55 p. m. the lower portion of the cloud formation took on a peculiar yellow tint at the bottom (such a tint as would result from the presence of a large quantity of sand particles). At 2.58 p. m. some rain fell and distant thunder was heard; the rain came from the southwest. As the heavy cloud formation neared the station, at 3 p. m., a rumble not unlike distant thunder was heard, and at 3.06 p. m. a flash of lightning was seen and thunder heard east of the tornado cloud. The wind came from the south and the principal cloud formation kept moving from a west to a northwesterly direction.

As the cloud first neared the river its motion of translation appeared to be checked and the front of the cloud area presented a "rolled back" appearance and began to turn northward, the front of the heavy clouds curved in and out and took on the general outline of the west bank of the Hudson River beneath. On the opposite side of the river, and at about a distance of about 500 feet, comparatively bright weather conditions prevailed.

The storm moved northward for a short distance, thence northeast. As the cloud area or mass began to turn the wind began to feel peculiarly cool and the snow had a hard covering—no hail fell. The snow was partly covered with ice; it was hard, like a fish scale, on one side. The snow changed to rain at 3.02 p. m., and ended at 3.25 p. m. After the storm had passed away the observer visited the south end of the city, and at a point on Quay street at the river front found that the stack of the Townsend Furnace Company was broken, the broken part hanging along side of the standing part. Some roofing, slate, and débris were scattered in Mulberry street in a southwest direction. The observer next visited the Gould Carriage Works, and one of the office force, a member of the firm, stated that he first noticed that a peculiar darkness was coming on, and heavy clouds, low down, were appearing in the west. Shortly after 3 p. m. he heard a peculiar hissing noise, following which came a flash of lightning and a loud clap of thunder. The next thing he knew his office room was filled with dust, and he thought the whole building was coming down. The workmen were badly frightened and rushed down stairs. Immediately before the commotion in the building the air outside his office was filled with shingles, pieces of wood, old shoes, and glass, all of which were carried in a general northerly direction. The foreman led me to the roof of the works. I examined the roof of the building and found a section 50 by 10 feet ripped off. The building from which the tin was ripped off is 5 feet higher than the adjacent structures.

The tin was torn from the southwest corner of the building in a northerly direction and hurled against the south side of the stack of the Townsend Furnace Company on the opposite side of the street. The corner of the fence opposite the Gould Carriage Works was blown down. On the Story property the windows were broken. On the northeast corner of Dallius and Cherry streets I found that a piece was taken out of the southeast side of the northeast chimney on Mr. R. B. Rock's dwelling, also 20 feet of a fire wall on the south side of the house was razed level with the roof, the structure and some bricks and coping carried away from the northwest corner of the building. Mr. Rock informed me that he had a coop on the roof which was carried away, and struck the chimney first and then the northwest corner of the roof, after which it fell to the sidewalk below. During or prior to the storm Mr. Rock was at the Aniline Works, on the corner of Vine street and Broadway, and he noticed heavy clouds moving from the west with the surface wind due south. Muddy water was scooped out from puddles in the streets and hurled for some distance. A 10-foot board fence and gate, also the broad roof of a small house farther east on Bassett street, were torn off and carried across the street, falling to the south. The north wall of a shed adjoining was pushed outward for some distance.

Mr. Landy, who was in Mr. Lynch's yard at the time of the storm, was pinned down by a heavy 10 by 12 foot gate. The river was choppy, and some boys stated that water was lifted out of the river. The water in the river was some 6 feet below the string piece that evening. Between 5.45 and 6 o'clock p. m., at the time when the observer was going over the ground traversed by the storm, dark clouds were seen forming west of Bassett street; they moved over the observer from the west. Some clouds were also moving from the south at about right angles to the west cloud area with clear sky between the two formations. In the merging process they survived and the resultant cloud area moved northward along the west bank of the Hudson. No thunder came from the tornado cloud proper; it presented a V-shaped, light appearance to the observer as it came head on.

Amount of damage estimated at $2,000.

The chart of the path of destruction, compiled by Mr. Sims, is omitted from this abstract.

II.—TORNADO, MARCH 20, 1895, AUGUSTA, GA.

The following report is by Mr. D. Fisher, Weather Bureau observer at Augusta, Ga.:

At 9 a. m.. March 20, 1895, a tornado struck the southwest portion of the city, moving in a path from southwest to northeast, occupying five minutes in traveling over a territory 3¼ miles in length, thus having a progressive velocity of 42 miles per hour. The lower appendage of the cloud was similar in shape to a funnel and was distinctly seen by several persons; it was visible in the air at a distance varying from 50 to 150 feet above the ground. The tail or funnel while in midair was seen swinging violently from side to side, and the noise it made when near the earth resembled that emanating from a moving freight train at a distance. The atmospheric conditions preceding, attending, and for a short while following the storm were as follows: The clouds at 8 a. m. were of the stratus type, of a deep slate color, scudding along very low from south to north at a rapid rate, and presented a billowy or choppy appearance; humidity, 81 per cent; the southerly winds had a velocity of 10 miles per hour; the temperature was 65°; the air was quite warm and sultry, and while on the tower roof the observer experienced a peculiar sensation which almost approached exhaustion. The wind blew from the northeast until 5.40 a. m., east until 7.20 a. m., south until 9 a. m., then suddenly veered to west and northwest, increasing in force and attaining a maximum velocity of 22 miles from south at 8.55 a. m. The barometer was falling rapidly all morning, reading 29.46 at 9.20 a. m., quickly rising to 29.56 at 10.30 a. m., then falling again until 4 p. m., when the instrument indicated 29.43, after which a steady and rapid rise occurred. A light shower of rain had

fallen in early morning, to the extent of 0.03 inch; at 8.43 rain again commenced to fall, becoming heavy about 9 a. m.; this lasted for ten minutes, and then subsided to a light fall, ending 10.20 a. m. The thermometer rose slowly from 65° at 8 a. m. to 67° at 9 a. m., but by 11.30 a. m. dropped to 49°. No thunder or lightning occurred either before, after, or during the prevalence of the tornado.

The topography of the country around the outskirts of Augusta is for the most part very hilly; the city is almost surrounded by a circle of elevations, from 200 to 300 feet in altitude; to the southward, however, the ground is comparatively low, flat and boggy, and it was from this opening that the storm entered the city. (See Chart No. VIII.)

No. 1 on the map was the first point struck by the tornado, although it was seen moving over a dense growth of pines situated about one-half of a mile back of the storm, or southwest of this place; the clouds appeared intensely black, but no funnel was then noticed. At No. 1 three large pines were uprooted, and all lay in a northeast direction; the distance between the outer and inner trees was 100 yards. The tornado then jumped over the pavilion, and continued in the air until No. 2 was reached; a partial descent was here made, resulting in twisting off one-half of a medium-sized pine; the broken portion was carried some 80 feet forward (or to the northeast). About 600 yards south-southeast of No. 2 a secondary or minor tornado tore away a tin roof on the south end of the glass works. From No. 2 another jump in the air occurred, descending on No. 3, a small frame house which was blown away, leaving nothing except the flooring upon which the two occupants of the house were standing, neither of whom were in the least injured; the débris of this house was also carried to the front and lodged against another small house 50 feet distant. It was here that several persons saw the funnel distinctly before it struck No. 3; they were standing east of the track about 300 yards away, and it appeared to them to have a shape like smoke coming from the stack of a locomotive engine, very black in front (northeast) and much brighter in the rear (southwest); they heard a subdued, roaring noise, and noticed the appendage twisting and writhing, but none could identify the direction in which the whirl rotated. The tornado bounded over the small house that No. 3 was lodged against, and came down into a small grove of pines, prostrating 3 of them which were lying in a northeast direction and twisting off 1 tree 15 feet from its roots, which latter lay pointing east; the space of ground occupied by these 4 trees, while standing, was not over 40 feet square. The tornado now continued its course to No. 5, which was a 2-room frame house on the west side of Twelfth street and crushed it to pieces; inside were 3 small children, and when the wreck was removed the children were found uninjured. Here the tornado again ascended, but descended on No. 6, a small frame dwelling standing on the southwest corner of Third avenue and Ninth street; this house was swung from its pillars, and the south end carried 5 feet toward the east; this shows beyond a doubt that the tornado was whirling from left to right, or in a direction contrary to the movement of the hands of a watch [see note]. After passing this point the tornado bounded up and next struck No. 7, also a small frame house, tearing off 12 feet of the chimney and scattered the fencing in the rear of the house; here the track of the storm was about 50 yards wide; it also wrecked a 2-room house in front of, and opposite to, No. 7, and then jumped across and demolished a kitchen standing 15 feet in rear of No. 8. Thus far along the route of the tornado the funnel was visible to many persons, but now the débris commenced flying fast and thick, covering the cloud to such an extent that nothing further could be seen of the funnel.

On Eighth street, west side (No. 9), between Gwinnett and Hopkins streets, the destruction was terrible; 8 small frame houses were literally torn to pieces and the fragments carried several hundred feet away but in the path of the storm. The track here was 50 yards wide; one house on the southwest corner of Eighth and Gwinnett escaped destruction, 4 houses on Eighth and Hall streets (No. 10), just opposite, and somewhat larger than those previously encountered, were terribly disfigured, 3 having the roofs carried away and the fourth almost razed to the ground; one of the roofs which was lifted into the air was carried forward so rapidly that when it struck Miller's Mill, having traveled at least 300 feet, it tore a large hole in the roof, but the storm itself had passed a little to the east of the mill building, tearing away some 200 feet of tin roofing on the adjoining buildings used for storing empty barrels, &c. Again making a long jump, No. 11 was reached; this structure is the roundhouse of the Central Railroad, and one-third of this was torn to pieces. Near this point another minor tornado developed, bursting out 140 feet of the east brick foundation of the Central Railroad machine shops (No. 12); this building is 50 feet wide and 160 feet long, and is located about 400 feet south of No. 11. The secondary storm continued in a north-northeast direction and tore away the tile roof of No. 13 (Perkins' old office), being the last seen of storm No. 3; it also was 50 yards wide. The main storm ascended after leaving No. 11, but came down and destroyed a small frame house (No. 14) on the south side of Fenwick street, between Fifth and Sixth streets, jumped back again into the air, and visited the front yard (No. 15) of Mrs. H. T. Russell on the south side of Walker street, between Fourth and Fifth streets. Here it rooted up and scattered about all the shrubbery in the yard and blew down on the sidewalk an immense water-oak tree, one of the oldest and probably as large as any tree in the city. It was 5 feet in diameter and fully 100 feet high; the fallen tree lay in a northeast direction. Again bounding up the storm crossed over and struck down a medium-sized tree standing on the west side of Fourth street, north of Walker street; this tree lay pointing toward the east. It is believed that at this point the tornado entirely disappeared.

[NOTE.—When any obstacle, house, or stone is pushed straight ahead by a uniform force, such as the pressure of a very uniform straight-lined gale, the movement of that obstacle is not necessarily in a straight line, but depends upon the shape of the obstacle and the resistance met with as it endeavors to move along the earth's surface. If, for instance, one end of the small frame building, No. 6, was more heavily loaded or more firmly fastened than the other end, or if some fastenings gave way last and after the other end had begun to move, then the final position of the building would make an angle with its original position; the building will have been twisted around, although the wind that struck it was blowing in a straight line; therefore, the conclusion as above drawn by Mr. Fisher seems open to revision.—C. A.]

NOTES BY THE EDITOR.

SENSIBLE TEMPERATURES.

As this term has been used by several persons with different significations it may be worth while to recall these and compare the definitions among themselves. In the Philosophical Transactions for 1826 of the Royal Society of London, Dr. W. Heberden advanced the idea that sensible cold depended on the rate at which the internal heat is carried off from the surface of the body. Assuming that the surface of a thermometer is analogous to that of the body he proposed to use its rate of cooling as an index to the sensible temperature. He, therefore, warmed a thermometer to about 120° F., and allowed it to cool in the wind; the time required for it to cool from 100° down to 80°, or the amount by which it cooled in ten seconds, constituted, according to him, a measure of the sensible cold. [The rate of fall of the column of mercury depends largely on the internal resistance of the capillary tube, and the method is therefore not a correct measure of the cooling of the surface of the bulb.]

About 1871, Mr. J. W. Osborne, of Washington, proposed to use the cooling surface of a paper cylinder that was filled with water; the mass of water was about 4 pounds in weight, and as it was kept well stirred the temperature could be accurately given by means of a thermometer. The ratio of the mass to the cooling surface was about the same as that in the human body. He proposed to determine the time required for this mass of water to fall 1° in temperature after it had been warmed to a little above blood heat. In order to distinguish between the influence of atmospheric temperature and vapor he made similar observations with a cylinder of water whose surface was always kept dry. As the results of his experiments he found that the sensible temperature affecting human beings is very different from that given by the ordinary thermometer; that the fluctuations in it are far greater than most persons have any idea of; that there are sudden oscillations quite as important as the great changes from day to day; that the wind is often more important than the temperature; and that it causes the instantaneous oscillations. The rate at which the cylinder of water loses its temperature is proportional to the rate at which the human body must supply heat in order to maintain its own constant temperature, and this rate is the basis of our conception of sensible temperature. By securing the cooperation of a large num-

ber of observers Mr. Osborne sought to also establish a scale of subjective temperature for comparison with the sensible temperatures given by the apparatus just described, and found a general parallelism in the results.

In a paper read before the American Climatological Association, June 1, 1894, Prof. M. W. Harrington proposed that the temperature of the wet bulb should be used as a measure of the sensible temperatures, while the depression of the wet bulb below the dry bulb indicates the dryness and the cooling influence of the wind and the consequent evaporation from the skin.

We see here the successive steps of progress by which we have passed from the neglect of moisture to its full consideration.

OBSERVATIONS AT HONOLULU, HAWAIIAN ISLANDS.

Meteorological observations at Honolulu, Republic of Hawaii, by Curtis J. Lyons, Meteorologist to the Government Survey.

Pressure is corrected for temperature and reduced to sea level, but the gravity correction, —0.06, is still to be applied.

The absolute humidity is expressed in grains of water, per cubic foot, and is the average of four observations daily.

The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 10.

The rainfall for twenty-four hours is given as measured at 6 a. m. on the respective dates.

March, 1895.	Pressure at sea level.			Temperature.					Humidity.			Wind.		Cloudiness.	Rain measured at 6 a. m.
									Relative.						
	9 a. m.	3 p. m.	9 p. m.	6 a. m.	2 p. m.	9 p. m.	Maximum.	Minimum.	9 a. m.	9 p. m.	Absolute.	Direction.	Force.		
	Ins.	*Ins.*	*Ins.*	°	°	°	°	°	%	%					*Ins.*
1..	30.22	30.15	30.22	68	74	69	74	65	60	57	4.9	nne.	4	4	.00
2..	30.20	30.14	30.17	67	73	67	75	67	53	67	4.8	nne.	5-3	1-4	.00
3..	29.20	30.12	30.18	64	74	69	75	62	52	57	4.6	ene.	3	3-8	.00
4..	30.18	30.07	30.15	66	73	66	75	60	56	66	4.8	ne.	4	7-2	.00
5..	30.11	30.02	30.10	63	74	67	77	61	59	68	4.9	e-se.	3	4	.00
6..	30.06	29.97	30.04	65	75	70	76	61	68	76	5.6	sw.	1	9	.00
7..	30.06	29.96	30.03	70	76	69	78	68	77	81	6.3	sw.	2	8-3	.00
8..	30.05	29.97	30.05	68	77	72	79	63	74	77	6.8	sw.	3	5	T.
9..	30.08	29.99	30.05	70	78	72	80	67	77	85	7.2	sw.	4	7	.00
10..	30.10	30.03	30.11	68	75	66	77	67	57	72	5.5	ne.	5-2	1	.09
11..	30.16	30.09	30.16	64	75	70	77	62	52	68	4.9	ene.	5-2	8	.00
12..	30.20	30.08	30.16	69	74	70	75	68	54	67	5.2	nne.	6	3	.00
13..	30.18	30.10	30.16	66	75	69	75	66	55	53	4.5	nne.	5	4	.00
14..	30.17	30.11	30.20	69	72	69	73	66	63	70	5.0	nne.	6	6	.00
15..	30.16	30.10	30.17	68	72	70	74	77	65	65	5.3	ne.	6	5	.10
16..	30.19	30.11	30.17	66	70	69	74	65	76	70	5.5	nne.	6	8	.62
17..	30.15	30.09	30.15	68	72	70	75	67	62	64	4.9	ne.	5	4	.40
18..	30.14	30.08	30.20	69	74	70	75	68	63	67	5.4	ene.	6	3-7	.05
19..	30.24	30.16	30.23	69	74	70	76	69	60	64	5.2	ene.	5	4	.01
20..	30.23	30.15	30.23	69	74	70	75	69	71	65	5.3	nne.	5	4	.00
21..	30.23	30.18	30.18	70	73	70	76	69	57	58	4.9	ene.	5	4	.01
22..	30.18	30.09	30.15	68	76	71	77	67	56	64	5.1	ne.	4	4	.00
23..	30.13	30.05	30.13	69	76	70	77	68	57	64	5.2	ne.	4	4	.00
24..	30.16	30.04	30.14	69	72	70	77	68	60	68	5.5	nne.	4	2-4	.02
25..	30.15	30.08	30.15	64	70	64	71	63	63	70	4.4	nne.	7	4	.01
26..	30.19	30.10	30.17	63	70	66	70	60	63	68	4.6	nne.	5	7	.04
27..	30.19	30.09	30.17	65	70	67	73	60	63	71	5.0	ne.	4	4	.18
28..	30.16	30.08	30.13	64	74	69	75	63	75	68	5.5	ne.	5	7	.20
29..	30.16	30.08	30.14	64	75	70	76	63	69	68	5.9	nne.	1-4	5	.25
30..	30.14	30.08	30.16	67	75	70	77	66	68	68	5.4	nne.	4	5	.05
31..	30.15	30.07	30.16	68	75	72	77	67	61	64	5.4	ne.	4	5	.01
	30.159	30.077	30.148	66.8	73.8	69.1	75.5	65.2	62.7	67.5	5.2	.....	.....	.....	2.04

Mean temperature: 6+2+9+3 is 69.9; the normal is 70.9; extreme temperatures, 80° and 60°.

An unusual proportion of northerly winds.

Disturbance periods occurred on the 15th and 26th.

The average absolute humidity is 5.25, the driest atmosphere on record during a period of four and one-half years.

AMERICAN ASSOCIATION OF STATE WEATHER SERVICES.

In a circular letter of July 12, Maj. H. H. C. Dunwoody, president of the association, announces—

The fourth annual convention of the American Association of State Weather Services will be held at Indianapolis, Ind., Wednesday and Thursday, October 16, 17, 1895. It was the intention to have the meeting of the Association held in Springfield, Mass., in conjunction, as in former years, with the American Association for the Advancement of Science, but, in view of the fact that three of the four previous State Weather Service conventions have been held in eastern cities, it is considered but fair to the directors of the services in the central and western portions of the country that a place of meeting for this year's convention be selected that could be more conveniently and economically reached.

* * * * * * *

The Chief of the Bureau is anxious that the forthcoming meeting shall be a successful one, and authorizes me to say that, as the object of these conventions is to increase the usefulness of the Bureau, permission to attend the convention will be granted all Weather Bureau officials on State Weather Service work, the necessary absence not to be charged against annual leave.

* * * * * * *

Papers upon topics of interest to State Weather Services are solicited, and if authors of such articles as may be prepared find it impracticable to attend the convention, they are requested to forward to the secretary any paper that may be prepared.

THE WARM WAVE OF MARCH 27–29.

As the area of low pressure No. XVIII moved from the coast of Washington on the 26th into Assinniboia on the 28th and Missouri on the 31st, it was accompanied by southerly winds and high temperatures that are rare at this season of the year. The maximum temperatures for the month were the highest on record, as follows: On the 27th, Port Angeles, 59°; Havre, 72°; Miles City, 77° (on this date the highest temperatures of the current March occurred throughout the northern and eastern portions of the Rocky Mountain plateau). On the 28th, Pierre, 84°; Concordia, 93°; Topeka, 91°; Dodge City, 93°; Wichita, 91°; Kansas City, 88°; Springfield, Mo., 86°; Memphis, 87°. On the 29th, Omaha, 85°; Des Moines, 88°; Dubuque, 86°; Davenport, 82°; Keokuk, 84°; St. Louis, 85°; Springfield, Ill., 84°; Chicago, 80°; Indianapolis, 82°; Cairo, 84°; Louisville, 86°; Lexington, 83°; Cincinnati, 84°; Columbus, Ohio, 79°; Nashville, 85°; Chattanooga, 85°; Knoxville, 83°; Montgomery, 86°; Atlanta, 83°. On the 30th the maximum temperatures of the month, averaging 84° and 85°, were experienced in the interior of the south Atlantic States, but these were not the highest on record for that region.

In general, it will be noticed that there was a steady, progressive, southeastward movement of an area of high temperature from British Columbia to the Atlantic coast, and that the temperatures were on the average much higher (90° to 93°) in Kansas on the 28th than in any other region on that day or on the other days. The average of the maximum temperatures on successive days was about as follows: On the 27th, from eastern Montana to eastern Colorado, 75°; on the 28th, from South Dakota (84°) to northern Texas (85°), the maximum, in Kansas, 92°; on the 29th, from Iowa to Georgia and Ohio, 85°; on the 30th, in the south Atlantic States, 84°. This general diminution of maximum temperatures as we go southeastward from day to day is also noticeable in the individual maxima of each day, thus, on the 28th, the maxima in Kansas were 4° or 5° higher than those in Missouri, and on the 29th the maxima in Iowa were higher than those in Tennessee, Kentucky, and Ohio. If the air had been nearly calm one might attribute this distribution of maxima to insolation and cloudiness, but inasmuch as high southerly winds prevailed wherever a maximum temperature was recorded it is necessary to consider the effect of the movement of the air. Strong horizontal winds rarely exist without causing ascending and descending currents of equal importance. The ascending currents carry the warm, moist, surface air upward to cool and form clouds and rain. If, after rain has fallen from these currents and while the latent heat of the condensed moisture remains in the air, the latter is again quickly brought down to the ground, it will be warmer than before it ascended. But this process is not the one that went on during the 28th to form the hot winds in Kansas, nor did it form the hot winds of the 29th in Iowa, Illinois, and the Ohio Valley, for on those days no rain fell in those or any neighboring regions. The daily map shows that on the 28th, while the temperature was rising and the pressure falling in Kansas, with high southerly winds, pressure was falling, but temperature also falling, with the advent of cool northwest winds, in central Wyoming, Colorado, and New Mexico. Within this region the stations that represent the beginning of the eastern slope—such as Lander, Cheyenne, Denver, Pueblo, and

Santa Fe—show that on the 28th, a. m., at an average height of 5,700 feet, the average temperature was 50.8°; later in the day, for these stations, the average of the maxima was 67.6°, and the average for 8 p. m. was 60.8°. At an average distance of 300 miles eastward of this ridge, and especially in Kansas, the averages for Dodge City, North Platte, Amarillo, Concordia, Wichita, and Kansas City show that for an average elevation of 2,132 feet the average temperature on the 28th, a. m., was 52.3°; later in the day the average of maxima was 88.2°, and for 8 p. m. 77.7°.

The mechanical process by which the high temperatures of the 28th, in Kansas, were brought about was evidently as follows: An area of low pressure extended from Alberta southeast toward Nebraska; air was flowing toward this both from a high pressure in the region of the Upper Lakes and Hudson Bay and from a slightly higher pressure over the Rocky Mountain plateau; brisk and high westerly winds prevailed over the plateau region from British Columbia to Mexico during the 28th, evidently fed from a region of still higher pressure off the Pacific coast; the air over the plateau was pushed eastward by its own elastic expansion toward a region of low pressure, and, therefore, so long as it did not descend to any extent, was cooled by this expansion; hence, both pressure and temperature fell over the plateau region in addition to the fall due to the advent of any still cooler air. But when these westerly winds began, on the morning of the 28th, to descend the slope into Kansas and Nebraska, they were at once warmed up by compression more than they were cooled by the expansion into the area of low pressure. This warming being added to the regular diurnal insolation and to the general effect of transfer from north to south raised the maxima of the 28th in Kansas and Missouri up to their abnormal values.

On the 29th a precisely similar process went on, except only that the descending currents were now farther east, namely, Illinois and the Ohio Valley, and having already been cooled down by radiation the general temperature effect was less intense but still decidedly marked.

By taking the difference between the averages above given for the 28th it will be seen that for a descent of 3,538 feet along the eastern slope of the plateau there was an increase of temperature of 1.5° at 8 a. m. and 16.9° at 8 p. m., but 20.8° at the time of diurnal maximum. This latter figure corresponds to a rate of increase of 1° for 170 feet descent.

METEOROLOGICAL TABLES.

[*Prepared by the Division of Records and Meteorological Data.*]

Table I gives, for about 130 Weather Bureau stations making two observations daily and for about 20 others making only the 8 p. m. observation, the data ordinarily needed for climatological studies, viz, the monthly mean pressure, the monthly means and extremes of temperature, the average conditions as to moisture, cloudiness, movement of the wind, and the departures from normals in the case of pressure, temperature, and precipitation.

Table II gives, for about 2,400 stations occupied by voluntary observers, the extreme maximum and minimum temperatures, the mean temperature deduced from the average of all the daily maxima and minima, or other readings, as indicated by the numeral following the name of the station; the total monthly precipitation, and the total depth in inches of any snow that may have fallen. When the spaces in the snow column are left blank it indicates that no snow has fallen, but when it is possible that there may have been snow of which no record has been made, that fact is indicated by leaders, thus (. . . .).

Table III gives, for about 30 Canadian stations, the mean pressure, mean temperature, total precipitation, prevailing wind, and the respective departures from normal values. Reports from Newfoundland and Bermuda are included in this table for convenience of tabulation.

Table IV gives, for 82 stations, the mean hourly temperatures deduced from thermographs of the well-known pattern manufactured by Richard Bros., Paris, described and figured in the Report of the Chief of the Weather Bureau, 1891–'92, p. 29.

Table V gives, for 67 stations, the mean hourly pressures as automatically registered by barographs of the pattern manufactured by Richard Bros., Paris, except for Washington, D. C., where Foreman's barograph is in use. Both instruments are described in the Report of the Chief of the Weather Bureau, 1891–'92, pp. 26 and 30.

Table VI gives, for 136 stations, the arithmetical means of the hourly movements of the wind ending with the respective hours, as registered automatically by the Robinson anemometer, in conjunction with an electrical recording mechanism, described and illustrated in the Report of the Chief of the Weather Bureau, 1891–'92, p. 19.

Table VII gives the danger points, the highest, lowest, and mean stages of water in the rivers at cities and towns on the principal rivers; also the distance of the station from the river mouth along the river channel.

Table VIII gives the maximum, minimum, and mean readings of the wet-bulb thermometer for 135 stations, as determined by observations of the whirled psychrometer at 8 a. m. and 8 p. m., daily.

The difference between mean local time and seventy-fifth meridian time is also given in the table.

Table IX gives, for 133 stations, or all that make observations at 8 a. m. and 8 p. m., the four component directions and the resultant directions based on these two observations only and without considering the velocity of the wind. The total movement for the whole month, as read from the dial of the Robinson anemometer, is given for each station in Table I. By adding the four components for the stations comprised in any geographical division one may obtain the average resultant direction for that division.

Table X gives the total number of stations in each State from which meteorological reports of any kind have been received, and the number of such stations reporting thunderstorms (T) and auroras (A) on each day of the current month.

Table XI gives, for 42 stations, the percentages of hourly sunshine as derived from the automatic records made by two essentially different types of instruments, designated, respectively, the thermometric recorder and the photographic recorder. The kind of instrument used at each station is indicated in the table by the letter T or P in the column following the name of the station.

Table XII gives the records of hourly precipitation as reported by stations equipped with automatic gauges, of which 37 are known as float gauges and 7 as weighing rain and snow gauges.

Table XIII gives the record of excessive precipitation at all stations from which reports are received.

Table XIV gives a record of the heaviest rainfalls for periods of five and ten minutes and one hour, as reported by regular stations of the Weather Bureau furnished with self-registering rain gauges.

Additional information concerning the tables will be found in the January, 1895, REVIEW.

TABLE I.—*Climatological data for Weather Bureau Stations, March, 1895.*

Stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure in inches.			Temperature of the air, in degrees Fahrenheit.									Humidity and precipitation.				Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Monthly temperature data since opening station.			
			Mean pressure, 8 a. m. and 8 p. m. +2.	Mean reduced.	Departure from normal.	Mean max. and min. +2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				Absolute maximum.	Year.	Absolute minimum.	Year.
New England.						52.7	— 0.4										3.51	— 0.8												
Eastport	76	22	29.77	29.86	— .02	28.4	— 0.2	44	24	34	6	17	22	22	19	67	2.90	— 2.1	10	8,535	nw.	42	nw.	18	7	12	12	6.3	54	1889	— 8	1886
Portland, Me	103	24	29.79	29.90	— .02	29.4	— 1.4	46	26	36	4	6	32	58	32	75	3.37	0.0	12	6,025	nw.	28	nw.	30	8	11	12	5.8	71	1894	— 7	1872
Northfield	872	9	28.99	29.99	+ .01	22.2	— 3.1	45	8	32	— 6	15	12	44	15	73	1.36	— 2.0	12	7,611	n.	45	w.	18	13	7	11	5.2	66	1894	—15	1891
Boston	125	25	29.81	29.95	.00	34.6	0.0	58	1	41	14	15	28	21	23	64	2.72	— 1.7	12	9,338	nw.	37	nw.	28	11	7	13	5.7	72	1880	— 8	1872
Nantucket	14	9	29.94	29.95	.00	34.6	+ 0.2	47	14	39	21	5	30	18	29	81	4.41	+ 0.5	14	9,618	ne.	36	n.	18	11	8	12	5.4	54	*	6	1887
Woods Holl	.....	17	.....	.....	.....	33.9	— 1.9	46	14	39	19	5	29	16	.....	.....	3.87	— 1.0	12	12,256	w.	48	w.	28	13	7	11	5.1	58	1880	5	1875
Vineyard Haven	.....	9	.....	.....	.....	37.8	+ 1.6	55	1	45	21	5	31	27	.....	.....	4.58	+ 0.1	13	.....	nw.	.....	.....	...	17	1	13	.....	63	1890	10	*
Block Island	27	15	29.95	29.98	+ .02	34.8	— 0.2	48	1	40	18	5	30	19	29	78	4.76	+ 0.7	15	11,999	nw.	47	nw.	28	11	12	8	5.3	59	1891	6	1886
Narragansett Pier	.....	13	.....	.....	.....	35.2	+ 1.9	50	*	43	15	6	27	36	.....	.....	4.11	— 0.3	14	.....	sw.	.....	.....	...	15	2	14	.....	65	1868	3	1890
New Haven	107	23	29.86	29.98	— .01	34.4	0.0	52	10	41	17	5	28	22	22	64	2.36	— 2.4	13	7,933	n.	44	w.	28	12	10	9	4.8	69	1880	0	1885
New London	45	25	29.95	30.00	+ .02	34.8	— 1.3	50	10	41	17	5	28	25	28	79	4.12	— 0.8	15	6,317	nw.	37	nw.	28	9	10	12	5.6	64	1890	4	1886
Mid. Atlan. States.						39.8	— 0.5										3.03	+ 0.9												
Albany	85	22	29.91	30.01	+ .02	29.7	— 3.3	49	8	37	10	5	22	25	24	79	1.31	— 1.6	13	6,921	w.	36	se.	25	7	14	10	5.8	75	1894	— 6	1885
New York	185	25	29.80	30.01	+ .01	36.4	— 0.8	63	1	44	16	5	29	28	26	67	2.80	— 1.3	12	10,680	nw.	64	nw.	28	10	11	10	5.6	72	1879	3	1872
Harrisburg	377	7	29.62	30.05	— .02	35.9	— 0.3	58	25	43	17	5	29	24	28	75	1.94	— 1.7	13	7,023	w.	42	w.	28	10	9	12	5.5	75	1854	8	1890
Philadelphia	117	25	29.89	30.02	.00	38.1	— 0.9	64	1	46	18	5	30	28	26	63	2.61	— 0.5	12	9,000	nw.	43	nw.	28	13	7	11	5.4	77	1894	5	1872
New Brunswick	.....	9	.....	.....	.....	37.6	+ 1.2	60	1	46	17	5	29	31	.....	.....	3.21	— 0.4	12	.....	w.	.....	.....	...	3	15	13	.....	71	1894	11	1868
Baltimore	179	25	29.83	30.04	+ .01	40.6	— 1.5	72	1	48	21	5	33	29	26	61	2.94	— 1.2	13	7,070	nw.	37	nw.	28	11	15	5	4.7	82	1894	5	1873
Washington	112	25	29.93	30.05	+ .01	41.8	+ 0.4	74	1	50	22	5	34	31	27	62	2.59	— 1.6	14	6,890	nw.	39	nw.	9	12	10	9	5.0	83	1894	4	1873
Cape Henry	.....	21	.....	.....	.....	45.8	+ 0.7	75	1	55	28	20	37	32	.....	.....	4.13	— 1.3	14	.....	ne.	.....	.....	...	5	17	9	....	85	1894	12	1883
Lynchburg	685	24	29.30	30.06	+ .01	45.5	— 0.3	84	30	55	25	22	36	34	32	63	3.43	— 0.4	13	4,270	nw.	25	nw.	9	13	9	9	5.1	86	1894	16	*
Norfolk	87	25	30.00	30.06	+ .02	46.8	— 0.2	76	30	56	26	17	38	35	38	76	5.36	+ 0.8	14	7,599	n.	42	nw.	9	16	7	8	4.5	88	1894	14	1888
S. Atlantic States.						53.5	— 0.3										5.63	+ 1.0												
Charlotte	773	17	29.23	30.07	+ .02	49.2	— 1.6	84	30	58	25	17	40	32	37	70	5.52	+ 0.8	11	6,411	sw.	36	w.	8	10	8	13	5.4	85	1894	18	1893
Hatteras	11	15	30.06	30.07	+ .03	50.2	+ 0.5	66	*	56	33	17	45	22	43	79	7.14	+ 0.7	13	12,421	sw.	51	n.	21	12	9	10	5.5	75	1894	26	*
Kittyhawk	9	19	30.02	30.03	— .01	47.0	— 0.6	71	*	54	30	17	40	27	40	79	6.01	+ 0.8	13	12,386	sw.	54	n.	21	14	7	10	4.7	82	1894	20	1876
Raleigh	388	9	29.66	30.00	+ .02	49.0	+ 0.7	85	30	59	25	17	39	32	37	68	6.09	+ 1.2	14	5,851	sw.	32	nw.	2	11	5	15	5.8	89	1894	20	*
Wilmington	78	25	30.01	30.10	+ .05	53.4	— 0.3	82	30	62	29	17	45	32	46	85	2.94	— 1.2	12	7,215	sw.	36	sw.	8	14	6	11	4.7	87	1894	20	1873
Charleston	52	25	30.07	30.12	+ .05	56.0	— 0.7	81	28	63	34	17	49	37	47	78	5.22	+ 1.2	11	6,374	sw.	36	sw.	20	13	9	9	4.6	85	1882	25	1890
Columbia	.....	8	.....	.....	.....	54.3	+ 0.1	85	30	64	28	17	44	35	.....	.....	6.38	+ 1.7	12	.....	w.	.....	.....	...	8	8	15	....	90	1894	30	1893
Augusta	180	24	29.90	30.10	+ .04	54.7	— 1.4	84	30	65	31	17	45	34	42	66	8.06	+ 2.9	15	3,864	w.	22	s.	20	10	6	15	5.6	89	1882	22	1873
Savannah	98	25	30.01	30.12	+ .02	58.4	— 0.4	84	30	68	37	17	49	29	48	78	5.31	+ 1.7	10	6,783	s.	32	nw.	21	15	8	8	4.6	88	1894	26	*
Jacksonville	43	24	30.08	30.13	+ .04	63.0	+ 1.0	84	31	73	40	3	53	30	50	73	3.63	+ 0.4	7	6,217	sw.	42	sw.	20	14	6	11	4.9	88	1882	27	1890
Florida Peninsula.						68.2	— 0.2										1.61	— 0.7												
Jupiter	28	8	30.10	30.13	+ .03	68.7	— 1.3	87	16	76	49	3	62	21	60	77	1.59	— 0.1	7	8,108	s.	31	s.	2	17	9	5	3.9	87	*	33	1890
Key West	22	25	30.11	30.13	+ .03	72.4	— 0.1	81	16	77	57	4	68	13	64	78	1.34	+ 0.2	4	8,068	e.	36	nw.	21	17	12	2	3.5	80	1874	48	1890
Tampa	36	15	30.10	30.14	+ .04	66.4	+ 0.6	82	31	76	40	4	57	24	58	82	2.07	— 1.0	6	5,565	ne.	29	sw.	2	11	14	6	4.9	87	1894	32	1893
Titusville	44	8	30.10	30.14	+ .02	65.4	— 0.1	87	13	74	39	4	56	34	57	77	1.04	— 2.0	5	9,790	s.	45	n.	17	19	10	2	2.8	88	1890	32	1890
East Gulf States.						57.3	— 0.4										6.78	+ 0.9												
Atlanta	1,131	17	28.90	30.12	+ .02	51.5	0.0	83	29	61	23	17	42	31	38	68	7.55	+ 1.4	14	8,126	nw.	46	w.	20	13	7	11	5.0	83	1895	17	*
Pensacola	56	16	30.05	30.11	+ .01	59.2	— 1.3	79	29	66	33	3	52	26	51	81	6.69	+ 1.2	11	7,751	sw.	38	nw.	1	14	4	13	5.3	83	1884	25	1890
Mobile	57	25	30.06	30.12	+ .03	58.3	— 1.2	80	28	66	33	3	50	25	51	83	10.47	+ 3.1	12	6,858	s.	32	sw.	20	11	8	12	5.4	85	1879	25	1890
Montgomery	257	23	29.83	30.11	+ .02	57.0	— 0.5	86	29	67	29	17	47	34	47	75	9.14	+ 3.0	12	5,614	e.	36	w.	20	10	8	13	5.7	86	1895	21	1890
Meridian	358	6	29.70	30.09	— .01	55.6	+ 1.1	84	28	67	25	3	45	40	48	81	6.01	— 0.4	11	5,119	s.	30	nw.	20	8	10	13	6.2	85	1894	17	1892
Vicksburg	254	24	29.79	30.05	— .02	58.6	+ 0.1	82	28	68	33	*	49	32	43	64	6.02	— 0.4	12	6,390	se.	32	w.	20	16	7	8	4.0	85	*	24	*
New Orleans	54	25	30.04	30.10	+ .03	62.2	— 0.3	81	28	70	39	*	54	23	52	77	3.81	— 1.9	12	7,538	s.	37	n.	2	12	10	9	4.6	84	1879	30	1890
Port Eads	.....	9	.....	.....	.....	60.4	— 1.4	74	*	67	45	2	54	18	.....	.....	4.52	+ 0.9	7	.....	e.	.....	.....	...	9	8	14	.....	.....	.....	.....	.....
West Gulf States.						57.9	— 0.9										3.45	+ 0.1												
Shreveport	249	24	29.78	30.05	— .01	58.0	— 0.5	84	27	68	31	2	48	32	44	66	4.66	— 0.1	10	6,272	se.	39	nw.	20	11	6	14	5.8	90	1882	22	1890
Fort Smith	492	13	29.54	30.07	+ .03	50.9	— 0.7	87	27	62	16	4	40	40	38	66	2.78	0.0	13	5,436	e.	36	nw.	20	14	3	14	5.4	87	1895	14	1893
Little Rock	302	16	29.74	30.07	— .01	52.4	— 1.2	87	27	61	25	2	44	32	38	64	7.78	+ 2.9	14	6,462	n.	38	nw.	20	12	6	13	5.5	87	1895	16	1893
Corpus Christi	20	9	30.08	30.05	.00	62.8	— 1.2	78	30	68	38	2	58	27	58	87	1.43	— 0.2	10	8,874	se.	38	nw.	1	2	9	20	7.3	90	1887	28	1890
Galveston	42	24	30.05	30.09	+ .04	60.0	— 2.5	77	26	65	38	2	55	22	53	82	2.77	— 0.4	6	8,932	se.	49	n.	1	15	7	9	4.5	85	1879	30	1890
Palestine	510	14	29.52	30.07	.00	58.3	— 0.9	85	27	69	37	4	48	37	45	68	2.52	— 1.8	11	6,428	s.	28	sw.	3	7	13	11	6.2	87	1890	20	1890
San Antonio	679	18	29.33	30.06	+ .01	62.6	+ 0.4	85	30	73	33	2	52	33	47	65	2.24	0.0	11	5,929	se.	34	n.	1	8	10	13	6.1	93	*	21	1890
Ohio Val. & Tenn.						43.5	— 1.4										3.29	— 1.2												
Chattanooga	762	17	29.29	30.12	+ .04	49.8	— 1.2	85	29	59	23	9	40	36	36	67	5.86	— 0.5	15	5,654	s.	43	w.	8	8	11	12	6.1	85	1895	15	*
Knoxville	980	25	29.04	30.10	+ .01	47.8	— 0.5	83	29	58	24	17	38	36	34	66	4.65	— 1.0	13	4,367	sw.	36	sw.	8	11	7	13	5.6	83	1895	6	1873
Memphis	330	25	29.73	30.09	— .02	52.8	+ 0.3	87	28	62	28	4	44	34	37	80	7.01	+ 1.2	14	5,441	nw.	32	nw.	20	11	8	12	5.3	87	1895	16	1893
Nashville	545	25	29.48	30.08	— .02	48.6	— 0.4	85	29	58	22	17	40	31	37	70	5.09	— 0.1	11	6,005	nw.	36	nw.	8	13	4	14	5.4	85	1895	11	1873
Lexington	989	12	28.97	30.06	— .01	42.7	— 1.7	83	30	52	20	*	34	40	30	68	2.79	— 2.8	14	10,894	sw.	50	nw.	8	12	5	14	6.1	83	1895	6	1890
Louisville	525	24	29.48	30.07	— .03	44.0	— 1.9	86	29	53	21	16	35	40	31	64	2.10	— 2.1	14	7,765	s.	40	sw.	4	14	4	13	5.4	86	1895	3	1873
Indianapolis	706	25	29.21	30.07	— .03	38.8	— 1.1	82	29	48	14	4	30	40	27	67	1.30	— 2.7	11	6,271	ne.	34	w.	25	7	12	12	5.8	82	1895	3	1885
Cincinnati	698	25	29.37	30.07	— .01	40.8	— 2.0	84	29	49	20	16	32	43	29	67	1.51	— 2.0	14	7,308	nw.	40	w.	4	14	7	11	5.2	84	1895	1	1873
Columbus	824	17	29.16	30.07	— .03	36.7	— 2.9	63	31	45	16	14	28	31	31	84	1.73	— 1.1	15	5,774	nw.	35	nw.	4	7	14	10	6.2	80	1876	2	1877
Pittsburg	842	25	29.12	30.06	— .02	36.4	— 2.9	63	31	45	16	14	28	31	31	84	1.73	— 1.1	15	5,774	nw.	35	nw.	4	7	14	10	6.2	80	1876	2	1877
Parkersburg	638	7	29.37	30.08	— .01	39.7	— 1.6	80	29	49	15	3	31	50	34	82	2.92	— 0.4	18	5,423	se.	41	w.	8	6	14	11	6.3	86	1894	4	1890
Lower Lake Region.						33.9	— 3.5										1.44	— 1.2												
Buffalo	690	25	29.27	30.05	+ .05	36.9	— 2.9	54	24	34	2	14	20	28	19	73	1.58	— 1.1	14	9,322	w.	45	w.	17	9	11	11	6.0	72	1875	— 4	1885
Oswego	335	25	29.63	30.02	+ .02	35.4	— 4.3	49	24	31	5	14	20	30	19	76	1.66	— 1.1	16	9,227	nw.	38	nw.	18	8	11	12	5.6	72	1894	—11	1872
Rochester	523	25	29.45	30.04	+ .04	28.4	— 1.8	58	*	36	4	14	21	26	20	72	1.56	— 1.4	16	7,394	sw.	34	sw.	17	16	6	9	4.5	77	1894	— 7	*
Erie	714	22	29.25	30.05	+ .04	29.3	— 3.7	60	24	38	2	14	21	30	21	76	1.64	— 1.3	10	8,889	w.	36	s.	23	7	11	13	5.8	78	1875	— 1	*
Cleveland	740	25	29.23	30.06	+ .02	31.0	— 2.3	62	24	39	6	14	23	37	23	78	1.23	— 1.7	11	10,562	n.	45	sw.	4	10	8	13	5.6	76	1875	— 4	1885
Sandusky	629	18	29.35	30.07	— .03	31.1	— 3.2	62	*	38	7	14	24	36	23	74	1.23	— 1.4	9	8,364	sw.	36	sw.	27	3	11	17	7.1	76	1894	— 3	1885
Toledo	674	25	29.31	30.07	+ .05	30.6	— 4.2	66	27	38	4	14	23	40	22	75	0.91	— 1.2	10	9,580	nw.	39	ne.	30	9	11	11	5.7	75	*	— 3	1873
Detroit	734	25	29.24	30.05	+ .03	28.5	— 5.4	62	27	36	2	14	21	36	20	71	1.09	— 0.7	10	9,313	ne.	42	w.	25	11	8	12	5.4	75	1875	— 7	1872
Upper Lake Region.						24.9	— 2.1										0.84	— 1.3												
Alpena	699	23	29.33	30.06	+ .01	22.0	— 1.6	55	24	30	— 8	14	14	34	16	76	0.36	— 1.8	8	9,074	nw.	43	nw.	27	14	11	6	4.1	77	1894	—19	1894
Grand Haven	628	24	29.32	30.06	+ .01	27.8	— 3.4	56	23	36	— 2	14	20	25	20	75	0.92	— 1.4	10	9,136	nw.	36	e.	23	9	10	12	5.6	70	1878	— 5	1885
Marquette	734	24	29.18	30.02	— .02	20.8	— 1.6	54	27	28	—12	14	13	27	13	75	1.30	— 0.2	13	9,305	nw.	43	s.	23	9	10	12	5.6	70	1878	—16	1884
Port Huron	639	21	29.33	30.06	+ .04	25.6	— 3.3	59	24	34	— 2	14	18	33	18	73	1.09	— 1.9	11	9,825	ne.	43	nw.	27	8	12	11	5.7	76	1894	—14	1885
Sault Ste. Marie	642	7	29.28	30.03	— .01	15.4	— 6.6	50	24	25	—16	4	6	38	10	82	1.08	— 0.2	12	7,740	nw.	40	nw.	27	8	12	11	5.7	57	1894	—27	1890
Chicago	824	25	29.14	30.05	+ .01	31.7	— 2.6	60	29	39	9	14	24	40	22	67	1.32	— 1.2	7	14,885	ne.	50	ne.	30	8	17	6	4.0	80	1895	—12	1873
Milwaukee	673	25	29.29	30.05	+ .02	29.8	— 0.4	69	27	37	0	14	23	34	21	72	0.74	— 1.8	12	9,412	ne.	43	nw.	24	8	13	10	5.8	70	1878	— 8	1884
Green Bay	617	9	29.36	30.06	— .05	26.7	+ 1.2	65	27	35	— 6	14	18	35	17	69	0.41	— 2.1	8	8,006	s.	38	w.	25	8	17	6	5.5	69	1894	—23	1890
Duluth	702	25	29.21	30.02	— .03	23.3	— 0.6	52	22	32	—14	13	15	31	13	69	0.48	— 1.0	2	9,444	nw.	46	ne.	29	15	9	7	4.2	64	1889	—26	1875
North Dakota.						24.4	+ 3.2										0.14	— 0.6												
Moorhead	935	15	28.97	30.05	— .05	24.2	+ 3.7	59	26	36	—19	13	13	46	15	74	0.03	— 0.7	2	9,639	n.	48	se.	21	16	12	3	3.9	68	1889	—24	1893
St. Vincent	804	15	29.11	30.04	— .08	18.6	+ 3.5	56	22	30	—24	13	7	44	12	67	0.20	— 0.4	4	8,592	n.	37	s.	21	17	9	5	3.5	69	1889	—31	1883
Bismarck	1,681	21	28.19	30.07	— .03	27.4	+ 3.2	72	26	41	—22	13	14	56	16	70	0.34	— 0.8	3	8,498	nw.	42	nw	24	17	10	4	4.2	72	1895	—33	1891
Williston	1,875	17	27.94	30.03	— .05	27.2	+ 2.3	71	26	38	—15	13	16	43	11	58	0.07	— 0.3	6	8,573	w.	43	w.	28	6	15	10	5.8	72	1889	—32	1891
Upper Miss. Valley.						36.3	+ 0.2										1.30	— 0.9												
Minneapolis	.....	6	.....	.....	.....	29.9	+ 0.4	58	27	40	— 9	13	19	34	.....	.....	0.44	— 1.3	5	.....	nw	.....	.....	...	13	10	8	.....	76	1894	— 7	1893
St. Paul	850	24	29.10	30.07	+ .01	28.2	— 0.3	60	27	38	— 7	13	19	29	12	53	0.85	— 0.5	7	7,848	w.	38	w.	25	14	8	9	4.7	76	1894	—22	1873
La Crosse	720	23	29.25	30.07	+ .03	30.3	— 0.4	70	29	40	— 1	14	21	33	18	64	0.39	— 1.2	7	7,264	n.	38	w.	25	11	18	2	4.5	78	1894	—23	1873
Davenport	613	24	29.36	30.05	— .01	34.6	— 0.3	82	29	44	6	14	25	39	20	59	1.57	— 0.6	7	9,234	sw.	42	nw.	25	12	7	12	5.4	82	1895	— 8	1884
Des Moines	869	17	29.11	30.08	+ .02	35.9	+ 0.9	88	29	47	3	14	25	41	20	56	0.50	— 0.9	9	7,875	nw.	32	sw.	6	13	9	9	5.1	88	1895	— 8	1890

TABLE I.—*Climatological data for Weather Bureau Stations, March*, 1895—Continued.

Stations.	Elevation above sea-level, feet.	Length of record, years	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.									Humidity and precipitation.						Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Monthly temperature data since opening station.			
			Mean pressure, 8 a. m. and 8 p. m. +2.	Mean reduced.	Departure from normal.	Mean max. and min. +2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					Absolute maximum.	Year.	Absolute minimum	Year.
Up. Miss. Val.—Con																																
Dubuque	.....	22	.....	.....	.....	35.5	+ 2.3	86	29	47	2	14	24	48	.....	.....	0.99	— 1.5	3	.....	w.	....	.....	...	15	8	8	....	86	1895	—12	1890
Keokuk	613	24	29.38	30.06	+ .02	38.0	+ 0.1	84	29	48	8	4	28	40	24	61	1.05	— 1.1	7	7,645	sw.	36	sw.	9	17	5	9	4.4	84	1895	— 6	1890
Cairo	359	24	29.66	30.06	+ .02	46.9	— 0.2	84	29	55	23	4	39	29	33	65	2.76	— 1.1	12	8,124	s.	38	n.	20	3	10	18	7.3	84	1879	10	*
Springfield, Ill	644	16	29.34	30.06	.00	39.4	— 0.5	84	29	49	12	4	30	38	26	64	1.61	— 1.0	7	9,168	nw.	34	w.	25	10	10	11	5.6	84	1895	2	1890
Hannibal	534	....	29.46	30.05	.....	39.9	.....	84	29	49	9	4	30	36	26	62	1.77	.....	8	9,108	sw.	36	ne.	19	10	11	10	5.4	....	.....	.....	....
St. Louis	571	25	29.45	30.07	+ .01	44.1	+ 0.3	85	29	53	15	4	35	34	31	65	2.82	— 0.2	13	10,137	nw.	46	s.	23	17	6	8	4.5	85	1895	6	1890
Missouri Valley.						33.7	+ 2.0										1.84	0.0														
Columbia	.....	6	.....	.....	.....	43.4	+ 2.3	85	27	56	7	4	31	43	.....	.....	3.41	+ 0.5	12	6,949	ne.	30	nw.	8	10	10	11	5.6	85	1895	— 6	1890
Kansas City	963	7	29.02	30.08	+ .01	42.2	— 0.1	88	28	52	8	14	32	37	31	70	0.95	— 1.1	10	7,986	nw.	35	nw.	1	13	9	9	4.6	88	1895	2	1891
Springfield, Mo	1,336	10	28.61	30.07	+ .01	44.2	— 0.8	86	28	54	10	4	35	38	30	66	4.70	+ 1.4	8	8,693	s.	36	nw.	8	12	11	8	4.8	86	1895	3	1893
Topeka	.....	8	.....	.....	.....	43.9	+ 4.7	91	28	57	6	14	31	40	.....	.....	1.27	— 1.2	8	.....	s.	.....	.....	...	16	9	6	....	91	1895	— 1	1891
Omaha	1,123	25	28.84	30.08	— .01	37.4	+ 0.9	85	29	48	0	14	27	39	21	60	0.99	— 0.5	6	7,327	n.	36	n.	3	13	8	10	4.9	85	1895	— 7	1880
Sioux City	1,165	6	28.76	30.06	.00	33.9	+ 3.1	83	29	45	— 4	13	22	40	17	57	0.50	— 1.0	6	9,357	n.	43	s.	21	15	9	7	4.3	83	1895	—14	1891
Pierre§	1,470	20	28.42	30.04	— .05	34.1	+ 3.8	84	28	47	— 8	13	21	47	20	65	1.85	+ 1.2	8	8,010	w	40	nw.	22	10	10	11	5.8	84	1895	—24	1891
Huron	1,310	14	28.59	30.06	— .04	30.8	+ 1.8	77	28	44	— 9	13	18	47	15	60	1.08	+ 0.4	7	11,334	nw.	58	se.	21	10	11	10	5.3	79	1894	—24	1891
Northern Slope.						32.0	— 1.0										0.76	+ 0.1														
Havre	2,477	15	27.29	30.00	— .05	30.4	+ 0.5	72	27	42	—16	13	19	42	19	67	0.34	— 0.3	4	7,429	sw.	38	nw.	26	10	13	8	5.0	72	1895	—34	1891
Miles City	2,374	18	27.44	30.02	.....	32.3	+ 0.9	77	27	44	— 8	13	21	43	23	73	0.24	— 0.3	5	5,982	w.	30	w.	23	5	19	7	6.0	77	1895	—25	1879
Helena	4,106	15	25.77	30.10	+ .04	32.4	— 1.6	69	26	42	—10	14	22	31	20	63	0.29	— 0.3	5	6,842	sw.	42	n.	2	15	7	9	4.3	72	1893	—20	1891
Rapid City	3,290	10	26.56	30.06	— .04	31.0	— 0.7	76	27	42	— 8	15	20	46	17	63	1.95	+ 1.0	14	7,288	n.	48	sw.	22	6	14	11	6.3	78	1893	—17	1891
Cheyenne	6,105	25	23.90	30.14	+ .06	31.0	— 4.0	69	27	42	— 9	15	20	37	18	63	1.26	+ 0.6	6	10,736	nw.	56	w.	23	10	16	5	4.5	77	1879	—17	1880
Lander‡	5,377	13	24.54	30.09	+ .07	31.0	— 1.5	70	27	44	— 7	15	18	44	13	56	1.17	+ 0.3	8	4,151	sw.	48	w.	23	8	18	5	4.9	74	1882	—10	1883
North Platte	2,841	21	27.04	30.10	.00	36.2	— 0.8	88	28	50	— 9	14	22	48	22	64	0.09	— 0.5	2	8,154	w.	40	n.	30	14	12	5	4.5	86	1879	—21	1880
Middle Slope.						41.2	— 0.6										1.07	— 0.3														
Denver	5,287	24	24.66	30.08	+ .02	37.2	— 2.9	76	27	49	— 1	15	26	34	19	54	1.19	+ 0.3	6	6,581	nw.	48	ne.	30	16	11	4	4.1	81	1879	—11	1886
Pueblo	4,734	7	25.19	30.05	.....	39.3	— 2.7	79	27	54	— 1	14	25	46	13	42	0.59	+ 0.1	6	6,347	nw.	42	n.	30	16	9	6	4.4	82	1893	— 9	1892
Concordia	1,410	10	28.52	30.06	— .05	41.4	+ 1.9	93	28	54	— 2	14	28	50	23	58	0.44	— 1.5	5	6,901	s.	34	ne.	13	19	6	6	4.2	93	1895	— 2	*
Dodge City	2,523	21	27.36	30.05	.00	42.9	— 0.3	90	28	56	2	14	30	46	21	53	1.31	+ 0.5	4	9,458	s.	51	s.	30	16	11	4	3.9	90	1895	— 8	1880
Wichita	1,366	7	28.37	30.06	+ .01	45.3	+ 0.8	91	28	58	7	14	32	43	28	58	1.81	— 0.7	6	8,447	s.	44	ne.	19	20	5	6	3.3	91	1895	3	1892
Oklahoma	1,239	....	28.72	30.06	.....	50.0	.....	90	27	62	13	*	37	37	36	67	0.82	.....	7	9,035	n.	42	nw.	20	23	5	3	2.9	....	.....	.....	....
Southern Slope.						.....											.....															
Abilene	1,749	10	28.21	30.07	+ .02	55.7	— 0.3	87	28	67	30	14	44	38	34	55	0.15	— 1.4	5	8,800	sw.	48	nw.	19	9	14	8	5.1	92	*	17	1891
Amarillo	3,691	....	26.22	30.05	.....	46.1	.....	84	28	60	7	14	32	42	20	49	0.16	.....	4	‖	sw.	52	sw.	2	11	13	7	4.9	....	.....	.....	....
Southern Plateau.						54.9	— 0.3										0.15	— 0.4														
El Paso	3,813	17	26.17	30.04	+ .01	57.0	+ 0.7	82	28	71	24	2	43	44	10	21	0.05	— 0.4	1	10,434	w.	54	sw.	29	14	14	3	3.7	88	*	21	1880
Santa Fe	7,051	23	23.21	30.05	+ .03	39.8	— 0.2	66	27	50	19	1	30	30	12	34	0.54	— 0.1	5	5,759	sw.	45	sw.	29	17	9	5	4.3	82	1879	0	1880
Tucson	2,390	12	27.51	29.99	+ .01	58.4	— 1.1	92	25	74	30	16	42	45	23	30	T.	— 0.9	0	3,777	se.	24	sw.	29	16	10	5	3.6	93	*	24	1894
Yuma	141	20	29.80	29.95	— .04	64.5	— 0.6	97	26	79	38	16	50	44	33	38	T.	— 0.2	0	5,596	w.	34	w.	29	22	8	1	2.1	100	1879	31	1881
Independence	3,950	....	25.97	30.01	.....	49.2	.....	76	26	61	25	14	37	35	18	31	0.12	.....	2	7,311	nw.	44	se.	20	15	10	6	3.6	....	.....	.....	....
Middle Plateau.						49.4	— 1.3										0.56	— 0.8														
Carson City	4,720	8	25.26	30.08	.....	41.5	— 0.7	68	26	54	14	14	28	43	17	40	0.41	— 1.0	8	.....	s.	....	.....	...	23	4	4	2.7	73	1892	12	1890
Winnemucca	4,340	17	25.62	30.07	+ .01	38.8	— 1.9	70	26	51	5	15	27	40	16	45	0.45	— 0.4	7	8,113	sw.	52	sw.	21	11	10	10	5.0	82	1879	— 3	1882
Salt Lake City	4,345	21	25.62	30.10	.00	40.8	— 1.2	76	27	50	16	15	31	31	25	56	0.81	— 1.1	7	5,886	se.	40	s.	27	9	9	13	6.1	77	1879	0	1890
Northern Plateau.						38.4	— 0.8										1.18	— 0.4														
Baker City	3,430	6	26.39	29.99	— .03	37.8	+ 2.9	65	26	48	5	14	28	32	26	65	1.05	— 0.8	10	4,862	se.	28	se.	20	18	8	10	4.5	65	1895	3	1893
Idaho Falls	4,742	6	25.19	30.12	.....	31.8	+ 1.8	67	27	42	0	15	21	33	23	75	1.93	+ 0.2	9	6,560	nw.	43	s.	27	9	11	11	5.6	67	1895	—15	1893
Spokane	1,980	15	27.94	30.03	+ .01	39.2	— 0.5	65	27	49	10	14	30	33	25	60	0.57	— 0.8	9	5,061	s.	30	se.	21	7	8	16	6.5	74	1881	—10	1891
Walla Walla	1,018	10	28.92	30.02	— .03	45.0	— 0.9	72	27	55	19	14	35	32	33	63	1.17	— 0.4	6	5,280	s.	34	sw.	28	10	12	9	5.2	74	*	2	1891
N. Pac. Coast Reg.						44.6	— 1.0										5.98	+ 0.4														
East Clallam	.....	....	.....	.....	.....	42.2	.....	57	6	49	24	14	35	27	.....	.....	12.40	.....	20	.....	e.	....	.....	...	10	3	18	....	.....	.....	.....	....
Fort Canby	179	12	29.76	29.96	— .07	45.7	+ 0.3	61	25	51	32	14	40	21	38	79	5.42	— 0.6	18	10,545	se.	72	s.	21	6	9	16	6.6	70	1880	31	1891
Neah Bay	.....	11	.....	.....	.....	44.2	— 1.0	57	26	52	35	14	36	36	.....	.....	13.09	+ 5.0	18	.....	e.	....	.....	...	7	7	17	....	65	1885	22	1891
Olympia	.....	18	.....	.....	.....	44.0	— 0.7	64	27	54	30	14	34	34	.....	.....	4.47	— 0.7	16	.....	sw.	....	.....	...	8	9	14	....	74	1892	30	1895
Port Angeles	29	11	29.92	29.95	— .07	42.0	+ 0.3	59	27	48	30	14	36	30	35	77	1.40	— 0.8	14	3,763	s.	34	w.	28	10	9	12	5.3	59	*	30	1884
Port Crescent	.....	....	.....	.....	.....	40.6	.....	55	27	48	22	14	33	26	.....	.....	4.45	.....	10	.....	e.	....	.....	...	14	9	8	....	.....	.....	.....	....
Pysht	.....	....	.....	.....	.....	41.4	.....	59	29	50	22	14	33	29	.....	.....	8.80	.....	19	.....	e.	....	.....	...	9	0	22	....	.....	.....	.....	....
Seattle	119	....	29.84	29.96	.....	44.5	.....	65	26	52	27	14	37	26	34	71	3.60	.....	14	4,761	s.	30	s.	21	8	6	17	6.5	....	.....	.....	....
Tatoosh Island	86	11	29.85	29.95	— .07	43.8	— 0.3	54	*	48	33	23	40	12	39	82	10.43	+ 2.6	21	10,479	e.	50	w.	2	6	5	20	7.1	64	1885	25	1884
Astoria	.....	11	.....	.....	.....	45.7	— 0.9	61	*	52	27	14	39	19	.....	.....	6.63	+ 0.2	20	.....	sw.	....	.....	...	8	7	16	....	72	1889	27	*
Portland, Oreg	157	24	29.83	30.01	— .03	45.9	— 2.6	66	27	54	27	14	38	29	34	67	2.84	— 3.2	12	6,699	nw.	45	s.	23	10	13	8	5.4	79	1886	23	1891
Roseburg	523	18	29.41	29.99	— .08	45.7	— 3.0	71	25	56	21	15	35	35	35	71	3.58	+ 0.3	11	3,174	sw.	36	sw.	27	8	10	13	5.7	81	1887	19	1880
Mid. Pac. C'st Reg.						51.1	— 1.9										2.72	— 1.4														
Eureka	64	9	29.99	30.05	— .02	47.9	— 0.8	75	26	55	31	15	41	25	42	83	5.31	— 0.6	11	5,444	nw.	36	sw.	27	6	18	7	5.8	75	1895	31	*
Red Bluff	342	18	29.68	30.04	— .01	52.8	— 2.3	74	8	63	34	14	43	32	40	65	2.59	— 0.8	7	4,736	s.	35	se.	27	13	9	9	4.4	86	1892	28	1880
Sacramento	71	18	29.97	30.05	— .01	53.5	— 2.3	70	5	62	34	14	45	26	43	71	1.20	— 2.1	6	6,081	se.	36	se.	27	9	17	5	4.9	80	1882	29	1880
San Francisco	153	25	29.91	30.07	— .01	52.2	— 2.3	70	25	57	40	13	47	30	44	78	1.89	— 1.4	9	7,124	w.	36	se.	30	9	15	7	5.1	80	1892	37	1894
Point Reyes Light	.....	7	.....	.....	.....	49.0	— 1.6	72	25	56	34	*	42	27	.....	.....	2.63	— 2.1	9	.....	nw.	....	.....	...	....	3	1	25	....	74	1896	30	*
S. Pac. Coast Reg.						54.9	— 1.6										2.35	+ 0.5														
Fresno	332	8	29.69	30.04	+ .01	53.7	— 1.5	77	*	65	33	30	43	29	43	71	1.84	+ 0.5	6	3,794	nw.	26	nw.	28	9	14	8	5.1	84	1893	28	1888
Los Angeles	330	18	29.69	30.04	— .01	55.5	— 1.6	84	25	65	38	15	46	35	45	77	3.77	+ 0.9	6	2,650	w.	20	nw.	29	11	9	11	5.1	99	1879	31	1893
San Diego	93	24	29.95	30.05	— .02	55.4	— 1.6	74	2	63	38	16	48	28	48	80	1.43	0.0	9	3,978	nw.	24	s.	14	16	8	7	3.8	99	1876	36	1894
San Luis Obispo	234	....	29.82	30.08	.....	52.4	.....	81	25	61	31	16	44	37	43	75	2.44	.....	7	4,049	w.	27	w.	29	12	9	10	5.0	....	.....	.....	....

NOTE.—The data at stations having no departures are not used in computing the district averages. Letters of the alphabet denote number of days missing from the record.

*Two or more directions, dates, or years. †Received too late to be considered in departures, etc. ‡Normals of temperature and precipitation and extremes of temperature combined with Fort Washakie records. §Normals of temperature and precipitation and extremes of temperature combined with Fort Sully records. ‖ 13,259 miles for $29\frac{5}{9}$ days.

TABLE II.—*Meteorological record of voluntary and other cooperating observers, March, 1895.*

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Alabama.	°	°	°	*Ins.*	*Ins.*
Alco	86	28	59.2	.....	
Ashville*†	87	26	51.7	.....	
Bermuda†	84	25	58.4	9.40	
Brewton†	87	26	57.0	4.00	
Carrollton*†‖	78	29	55.1	8 83	
Citronelle†	80	33	60.8	6.87	
Claiborne Landing†	.....	.....	.....	8.00	
Collirene*‖	82	30	58.7	8.88	
Cordova†	.....	.....	.....	9.15	
Daphne†	80	24	57.8	8.42	
Decatur†	85	21	50.8	7.66	
Demopolis†	.....	.....	.....	6.17	
Elba	.....	.....	.....	6.49	
Eufaula *a*†	84	31	58.3	10.39	
Eufaula *c*†	.....	.....	.....	11.20	
Florence *a*†	.....	.....	.....	6.78	
Florence *b*†	82	24	51.2	7.10	
Fort Deposit†	89	28	58.0	10.98	
Gadsden†	88	25	52.0	6.86	
Greensboro†	85	28	55.0	6.40	
Healing Springs†	80	22	53.0	6.51	
Highland Home†	84	30	58.2	9.74	
Jasper†	83	20	50.9	6.55	
Livingston†	86	25	55.7	5.25	
Lock No. 4	.....	.....	.....	6.81	
Madison Station†	84	23	52.4	7.31	
Maple Grove†	86	23	53.1	7.57	
Marion†	84	26	54.9	6.92	
Mount Willing†	85	28	57.7	9.80	
Newbern†	82	28	55.2	7.85	
Newburg†	85	20	52.0	7.94	T.
Oneonto†	72	22	50.1	7.35	
Opelika†	88	29	56.8	4.45	
Oxanna *†‖	78	26	51.4	6.93	
Pine Apple†	82	25	56.0	9.23	
Pushmataha†	87	27	56.8	6.81	
Rock Mills†	83	27	52.0	7.55	
Scottsboro†	86	22	50.9	7.21	
Selma†	.....	.....	.....	8.02	
Starlington*†‖	80	28	55.1	12.12	
Sturdevant†	.....	.....	.....	7.24	
Tallassee Falls†	.....	.....	.....	8.02	
Tuscaloosa†	84	25	53.1	7.30	
Union†	87	24	55.4	6.06	
Union Springs†	82	26	56.7	10.90	
Uniontown†	84	30	57.2	5.94	
Valley Head†	81	30	50.6	7.78	
Warrior†	.....	.....	.....	8.20	
Wetumpka	.....	.....	.....	7.30	
Wilsonville†	.....	.....	.....	5.69	
Alaska.					
Coal Harbor†	44	1	27.2	5.65	12.8
Killisnoo†	43	28	33.2	2.80	10.0
Arizona.					
Arizona Canal Co. Dam†	90	36	61.1	T.	
Benson *a*‖	86	30	51.3	.....	
Bisbee*†‖	78	31	52.2	0.00	
Buckeye†	100	29	57.0	0.00	
Calabasas†	86	23	52.8	0.00	
Casa Grande*‖	95	40	62.6	0.00	
Dragoon Summit*‖	68	35	51.2	0.00	
Dudleyville†	96	36	54.7	0.14	
Eagle Pass*‖	.....	22	43.6	0.06	
Farleys Camp†	93	33	59.5	0.18	
Flagstaff†	63	13	38.5	1.70	17.0
Fort Apache	75	16	43.3	0.02	
Fort Grant†	77	31	50.0	0.02	
Fort Huachuca	81	27	53.0	0.04	
Gila Bend*‖	98	47	65.7	0.00	
Holbrook†	80	15	45.2	T.	T.
Keams Canyon†	80	15	43.0	0.09	
Maricopa*‖	102	33	60.8	0.00	
Mount Huachuca	81	27	53.0	.....	
Natural Bridge†	.....	.....	.....	0.30	
Navajo*†‖	.....	33	50.8	0.00	
Nogales†	95	28	57.2	0.00	
Oracle†	85	31	55.4	0.03	
Oro	.....	.....	.....	0.14	
Pantano*‖	88	41	57.3	0.00	
Parker†	98	29	61.8	T.	
Payson	.....	.....	.....	0.12	
Peoria†	93	33	59.5	0.00	
Pinal Ranch	.....	.....	.....	0.31	
Reymert†	92	33	61.5	0.00	
Rye†	86	25	54.0	0.10	
San Carlos	93	25	54.2	0.18	
San Simon*‖	84	38	60.5	0.00	
Show Low	.....	.....	.....	0.33	0.6
Signal†	92	32	58.4	0.06	
Sulphur Spring Valley†	.....	.....	.....	T.	
Texas Hill*‖	101	45	66.5	0.00	
Tucson *c*†	92	30	59.0	0.00	
Walnut Ranch*†‖	76	26	49.5	0.07	
Whipple Barracks†	80	16	44.6	T.	
Wilgus†	.....	.....	.....	0.06	
Willcox*‖	76	32	53.6	0.00	

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Arkansas.	°	°	°	*Ins.*	*Ins.*
Arkadelphia†	.....	.....	.....	8.20	
Arkansas City†	.....	.....	.....	5.55	
Bee Branch	88	22	51.0	3.75	
Blanchard Springs†	85	23	54.9	4.55	
Brinkley†	87	26	54.8	5.85	
Camden *a*†	.....	.....	.....	6.05	
Camden *b*†	85	24	54.6	5.31	
Conway*‖	82	23	51.1	3.17	
Corning†	82	20	45.8	4.73	T.
Dallas†	84	18	51.6	4.41	
Dardanelle†	.....	.....	.....	3.63	
Elon†	.....	24	.....	7.68	
Fayetteville†	86	11	49.7	1.98	T.
Forrest†	86	22	52.6	3.23	
Fulton†	.....	.....	.....	5.56	
Gaines Landing†	.....	.....	.....	5.34	
Helena *a*†	.....	.....	.....	6.36	
Helena *b*†	89	27	52.2	6.44	
Hot Springs *a*	87	25	54.2	5.82	
Hot Springs *b*	.....	.....	.....	6.69	
Hot Springs (near)	.....	.....	.....	7.81	
Keesees Ferry†	91	11	48.8	3.22	T.
Kirby†	84	28	53.8	8.40	
La Crosse†	87	16	48.4	3.78	
Lonoke*‖	85	27	55.2	6.19	
Luna Landing*‖	85	30	56.5	7.37	
Madding‖	.....	.....	51.0	5.56	
Malvern†	83	21	53 3	8.51	
Mossville	80	18	47.8	5.00	
Mount Nebo†	78	15	47.6	5.47	
New Gascony*‖	80[f]	29[e]	50.9[h]	5.27	
Newport *a*†	.....	.....	.....	5.74	
Newport *b*†	89	24	52.3	6.02	
Newport *c*†	87	23	50.5	5.66	
Osceola†	88	24	51.0	5.76	
Ozark†	87	19	53.3	5.11	
Pine Bluff	86	26	54.6	7.10	
Pocahontas†	88	20	47.8	3.96	
Rison†	84	21	52.8	6.60	
Rogers†	86	12	47.2	2.27	
Russellville†	87	22	52.0	5.23	
Searcy	88	23	54.5	4.10	
Stuttgart†	83	27	52.8	6.24	
Texarkana†	86	26	56.8	5.29	
Washington†	84	28	54.3	7.62	
Winslow†	78	10	46.2	2.58	
Witts Springs†	.....	.....	.....	4.29	
California.					
Adin	65	11	37.8	1.30	11.5
Ager	74	18	44.6	1.12	1.0
Agnew	76	30	51.4	2.02	
Arlington Heights	88	31	54.2	1.96	
Athlone*‖	80	38	56.3	1.24	
Ballast Point L. H	.....	.....	.....	1.69	
Barstow†	84	21	49.8	0.20	
Bear Valley†	.....	.....	.....	7.42	42.0
Berkeley	70	35	51.5	2.64	
Bethany*‖	77	37	52.8	0.45	
Bishop†	76	17	46.2	0.47	
Bishop Creek*‖	80	26	51.5	0.22	
Boca*‖	60	7	32.2	0.45	4.5
Bodie†	56	—11	26.6	0.47	2.5
Bowmans Dam	.....	.....	.....	9.65	38.0
Borden*‖	80	35	57.3	0.94	
Caliente*‖	75	40	55.6	1.67	
Calloway Canal†	86	28	56.3	0.87	
Cape Mendocino L. H	.....	.....	.....	8.08	
Cedarville†	68	10	38.2	0.40	7.5
Centerville*‖	76	41	56.1	2.15	
Chicago Park*‖	74	26	45.5	3.81	4.0
Chino*†‖	86	34	53.8	3.87	
Chico*‖	80	40	57.0	2.67	
Cisco*‖	45	13	33.6	5.00	50.0
Claremont†	85	31	52.8	4.20	
Cloverdale*‖	71	34	54.8	5.16	
Colegrove	.....	.....	.....	4.43	
Corning*‖	75	36	53.6	3.42	
Crescent City†	69	28	47.2	6.44	
Crescent City L. H	.....	.....	.....	7.46	
Davisville *b*	86	34	61.2	1.30	
Delano*‖	77	37	55.0	0.34	
Delta*‖	76	30	51.5	7.72	
Drytown	75	30	51.4	3.39	
Dunnigan*‖	76	32	56.0	1.23	
Durham*‖	74	36	52.7	2.40	
East Brother L. H	.....	.....	.....	1.06	
Edgwood*‖	61	23	40.9	2.84	
Edmanton*‖	56	15	35.8	10.59	71.0
Escondido	85	33	55.6	1.30	
Evergreen	.....	.....	.....	2.18	
Fall Brook*‖	84	38	52.8	2.14	
Florin*‖	77	31	54.8	1.29	
Folsom City *b*‖	75	38	53.8	2.53	
Fordyce Dam†	.....	.....	.....	10.61	113.0
Fort Ross	.....	.....	.....	6.57	
Fremontville*‖	82	32	55.5	2.19	
Georgetown†	75	34	47.4	4.67	3.0

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
California—Cont'd.	°	°	°	*Ins.*	*Ins.*
Goshen*‖	78	30	53.9	0.94	
Grass Valley *a*	.....	.....	.....	5.01	3.0
Greenville*†‖	67	6	33.9	5.29	31.0
Healdsburg*‖	66	30	50.1	4.75	
Hendersons Ranch	.....	.....	.....	2.00	
Hollister *a*	80	29	53.2	1.95	
Hueneme	.....	.....	.....	1.62	
Humboldt L. H	.....	.....	.....	7.10	
Hydesville†	74	25	48.0	5.09	
Indio*‖	95	44	66.6	0.00	
Iowa Hill*‖	76	28	48.4	4.60	2.2
Jackson	68	26	45.6	3.86	1.5
Jolon	.....	.....	.....	1.68	
Julian†	85	28	51.4	5.04	
Keeler*‖	70	39	54.3	T.	
Keene*‖	80	34	48.6	2.40	
Kennedy Gold Mine	73	28	50.2	4.48	4.0
Kernville	.....	.....	.....	1.80	
King City*‖	84	30	59.1	1.51	
Kingsburg*‖	72	37	56.1	1.15	
Kono Tayee	67	33	50.2	3.13	.....
Lagrange*‖	80	34	56.0	2.50	
La Porte*†‖	61	13	34.5	6.12	43.0
Lemoore*‖	79	31	54.3	1.01	
Lick Observatory†	64	22	42.8	1.46	8.0
Lime Kiln	84	31	55.4	.....	
Lime Point L. H	.....	.....	.....	1.75	
Lodi	77	32	53.8	1.45	
Los Alamos†	.....	.....	.....	1.44	
Los Gatos *b*	71	36	51.3	3.96	
Malakoff Mine*‖	74	26	45.4	7.01	12.0
Mammoth Tank*‖	95	50	64.4	T.	
Manzana	77	22	48.0	1.36	
Mare Island L. H	.....	.....	.....	2.09	
Mariposa*‖	74	26	48.2	3.37	0.5
Merced*‖	74	36	53.2	1.17	
Middletown*†‖	78	27	48.8	5.87	
Mills College	.....	.....	.....	2.39	
Milton (near)*‖	81	38	56.8	2.31	
Modesto*‖	78	34	49.9	1.83	
Mohave*‖	83	27	51.0	1.01	
Mokelumne Hill*‖	.....	30	47.4	3.73	3.0
Monterey*‖	70	38	53.8	1.94	
Mountain View	.....	.....	.....	1.72	
Mount Glenwood*‖	69	42	54.4	2.38	
Mutah Flat	.....	.....	.....	2.95	4.0
Napa *b*	75	32	54.0	2.21	
Needles†	91	40	62.5	0.06	
Nevada City†	71	25	45.2	5.12	6.0
Newcastle *a*†	71	30	50.2	3.42	
Newhall*‖	90	31	53.0	3.66	
Nordhoff†	86	29	52.8	3.38	
Oakland *a*	71	37	50.6	2.00	
Ogilby*‖	102	52	70.4	0.00	
Oleta*‖	69	28	47.3	3.94	4.0
Ontario *b*	85	40	56.6	3.72	
Orangevale†	69	35	52.6	2.23	
Orland*‖	75	36	52.8	2.09	
Ormonde†	.....	.....	.....	6.60	10.5
Oroville *b*	70	37	49.0	2.60	
Palermo†	74	31	53.2	1.91	
Pasadena	82	34	54.5	4.27	
Paso Robles *b*	75	26	51.8	1.28	
Petaluma*‖	73	33	52.4	2.55	
Piedras Blancas L. H	.....	.....	.....	2.28	
Pigeon Point L. H	.....	.....	.....	1.79	
Pilot Creek	.....	.....	.....	6.27	23.5
Placerville *b*	68	26	45.4	4.43	T.
Point Ano Nuevo L. H	.....	.....	.....	0.55	
Point Arena L. H	.....	.....	.....	4.99	
Point Bonita L. H	.....	.....	.....	3.14	
Point Conception L. H	.....	.....	.....	1.37	
Point Fermin L. H	.....	.....	.....	2.65	
Point George L. H	.....	.....	.....	5.73	
Point Hueneme L. H	.....	.....	.....	1.89	
Point Lobos	67	40	49.3	1.91	
Point Loma L. H	.....	.....	.....	1.05	
Point Montara L. H	.....	.....	.....	1.68	
Point Pinos L. H	.....	.....	.....	2.41	
Point Reyes L. H	.....	.....	.....	2.63	
Point Sur L. H	.....	.....	.....	2.25	
Pomona (near)	94	34	57.6	3.56	
Portersville*‖	81	40	56.4	1.10	
Poway*‖	.....	34	49.2	1.24	
Ravenna*‖	80	32	51.3	1.87	
Red Bluff	.....	.....	.....	.....	T.
Redding *b*†	78	32	52.8	2.78	
Redlands *a*	.....	.....	.....	3.27	
Reedley (near)*‖	80	38	54.5	1.55	
Represa	66	30	49.5	2.50	
Rio Vista	72	32	50.2	1.00	
Riverside†	89	33	56.7	2.42	
Roe Island L. H	.....	.....	.....	1.10	
Rosewood*‖	78	27	52.2	2.27	T.
Sacramento *a*	72	34	55.0	1.29	
Salinas	.....	.....	.....	2.07	
Salton*‖	105	49	67.8	0.00	

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
California—Cont'd.	°	°	°	*Ins.*	*Ins.*
San Bernardino†	86	33	55.4	3.44	
San Jacinto†	90	30	54.6	0.99	
San Jose *b*	79	25	53.0	1.46	
San Leandro *[1]	78	41	55.0	2.06	
San Luis L. H	.....	.....	.....	2.33	
San Luis Obispo *a*	.....	.....	.....	2.93	
San Mateo *[5]	71	39	54.5	0.05	
San Miguel *[5]	81	32	54.2	1.10	
San Miguel Island†	70	37	53.4	2.12	
San Rafael†	68	30	49.6	4.06	
Santa Ana *[5]	82	48	56.7	2.96	
Santa Barbara *a*	78	38	53.6	1.99	
Santa Barbara L. H	.....	.....	.....	1.87	
Santa Clara *a* *[5]	70	34	53.1	2.03	
Santa Clara *b*	80	32	52.0	2.00	
Santa Cruz *b*†	79	33	54.9	3.08	
Santa Cruz L. H	.....	.....	.....	2.90	
Santa Maria	82	33	55.4	1.25	
Santa Monica *[5]	73	36	52.7	2.53	
Santa Paula *b*†	79	30	49.4	3.13	
Santa Rosa *[5]	69	34	53.7	2.94	
Saticoy†	.....	.....	.....	2.47	
Shasta Springs†	56	18	40.6	7.20	27.0
Skye Valley	.....	.....	.....	1.29	
Sneddens Ranch	.....	.....	.....	1.50	1.0
S. E. Farallone L. H	.....	.....	.....	2.83	
Stanford University	71	33	51.4	1.69	
Stockton *a*	72	34	53.2	1.00	
Summerdale†	.....	.....	.....	5.81	22.0
Susanville *[1]†	63	9	36.3	1.26	15.0
Sutter Creek *[5]	68	24	45.2	2.50	
Tecarte Dam *[4]	88	28	47.2	1.43	
Tehama *[5]	78	39	54.0	2.32	
Tejon Ranch	.....	.....	.....	1.70	
Templeton *[5]	78	30	51.8	1.44	
Trinidad L. H	.....	.....	.....	5.40	
Truckee *[5]	52	4	30.5	1.72	15.0
Tulare *b*	.....	.....	.....	0.76	
Tulare *c*	86	30	56.5	0.86	
Turlock *b*†	74	29	51.8	2.11	
Ukiah†	74	26	49.6	4.80	
Upper Lake	78	29	50.8	3.20	T.
Upper Mattole *[1]	74	30	51.3	10.20	
Vacaville *a*[1]	74	33	53.4	2.07	
Ventura†	85	35	53.8	3.17	
Volcano Springs *[5]	102	48	71.0	0.00	
Walnut Creek	74	29	50.8	1.64	
Wenrich Ranch	.....	.....	.....	1.85	
West Point†	.....	.....	.....	4.65	6.0
Wheatland	75	34	53.0	1.63	
Williams *[5]	73	34	53.7	1.34	
Willows *b* *[5]	75	35	53.1	1.55	
Wilmington *[5]	78	41	60.0	.....	
Wire Bridge *[5]	71	32	52.0	3.34	
Yerba Buena L. H	.....	.....	.....	1.24	
Yreka†	68	18	43.4	2.26	
Yuba City *[5]	69	42	57.2	1.12	
Engineers Quarters‡	.....	.....	.....	8.82	10.0
Morses House‡	.....	.....	.....	12.54	12.8
Grass Valley‡	.....	.....	.....	10.13	8.6
Deep Creek‡	.....	.....	.....	7.21	4.0
Holcomb Creek‡	.....	.....	.....	4.86	2.2
Squirrel Inn‡	.....	.....	.....	9.58	8.0
Green Valley‡	.....	.....	.....	9.24	15.5
Tunnel No. 2‡	.....	.....	.....	5.32	4.0
Colorado.					
Abbott	.....	.....	.....	0.40	4.0
Alma† [7]	51	—14	19.6	0.83	.....
Antlers†	73	—12	34.2	0.67	20.0
Arkins	.....	.....	.....	0.98	.....
Boulder†	75	— 2	35.6	1.98	17.3
Box Elder	.....	.....	.....	1.59	18.0
Breckenridge†	54	—25	14.6	2.37	23.7
Byers *[1]	70	10	37.3	.....	6.8
Canyon†	78	— 1	39.8	0.44	6.0
Climax *† [1]	45	— 5	14.6	2.40	24.0
Collbran	.....	.....	.....	1.15	11.5
Colorado Springs†	73	— 6	34.4	0.40	4.0
Cope†	82	— 8	37.8	0.50	5.0
Craig	.....	.....	.....	0.22	4.0
Crook	84	—12	37.6	0.20	2.0
Deer Trail *[5]	75	0	36.8	.....	11.0
Delta†	80	11	41.6	0.23	2.3
Denver	.....	.....	.....	.....	11.9
Divide Exper. Station	68	—11	30.2	1.95	17.0
Downing†	75	10	40.3	0.15	.....
Dumont†	65	0	31.8	1.50	15.0
Durango†	68	14	38.8	T.	T.
First View *[1]	79	— 7	40.3	.....	.....
Fleming	.....	.....	.....	0.40	2.0
Fort Collins†	80	—18	34.2	0.54	5.5
Fox	.....	.....	.....	0.05	1.5
Garnett	.....	.....	.....	0.08	T.
Glen Eyrie†	73	— 6	35.2	0.26	.....
Golden *[1]	80	2	40.2	1.98	22.0
Gold Hill *[5]	59	— 2	34.0	3.16	32.3
Grand Junction†	76	20	43.0	0.62	3.5
Colorado—Cont'd.	°	°	°	*Ins.*	*Ins.*
Greeley†	.....	.....	.....	0.56	6.0
Gunnison†	50	—20	19.8	0.22	.....
Holly	.....	.....	.....	0.10	1.0
Holyoke *a*	.....	.....	.....	0.10	1.0
Holyoke *b*	.....	.....	.....	T.	T.
Hugo *[5]	78	— 3	39.8	.....	4.0
Hugo (near) †	78	— 3	34.8	0.28	2.0
Husted †	75	— 7	36.9	0.74	12.0
Julesburg †	84	—10	35.8	0.03	.....
Kit Carson *[1]	76	0	37.9	.....	3.5
La Jara†	70	6	36.4	0.27	1.8
Lake Moraine†	52	—10	24.2	1.35	26.0
Lamar	87	1	41.2	0.09	.....
Laporte	.....	.....	.....	1.07	10.5
Las Animas†	81	— 7	36.4	0.00	
Lay *† [1]	61	—16	26.8	1.12	11.2
Le Roy†	79	— 6	35.9	0.40	4.0
Leslie	.....	.....	.....	0.00	
Longmont†	78	—10	35.2	1.55	15.6
Loveland	.....	.....	.....	0.73	7.5
Manhattan	.....	.....	.....	2.60	.....
Meeker†	.....	—12	.....	1.22	16.0
Minneapolis†	87	2	42.8	0.20	2.0
Monte Vista	67	0	31.8	T.	
Moraine†	57	— 3	28.4	1.40	16.0
Ouray†	66	7	31.8	2.75	27.1
Pagodo (near) †	62	—18	25.7	2.00	20.0
Paonia†	.....	.....	.....	0.35	3.5
Parachute†	75	— 8	36.6	1.40	14.0
Pinkhamton	.....	.....	.....	2.40	.....
Pueblo	.....	.....	.....	.....	6.4
Rangely†	72	— 5	29.9	0.80	6.5
Rico	.....	.....	.....	1.81	18.1
Rocky Ford†	83	— 3	40.1	0.08	0.8
Ruby†	.....	.....	.....	8.32	84.0
Saguache†	60	2	31.6	T.	T.
St. Cloud†	.....	.....	.....	2.20	22.0
San Juan†	56	—17	22.8	0.56	5.5
San Luis†	70	0	32.8	0.27	3.1
Santa Clara *† [1]	69	0	32.5	2.40	24.0
Seibert†	.....	.....	.....	0.56	7.0
Smoky Hill Mine†	67	— 5	33.2	2.90	27.0
Springfield†	.....	.....	.....	1.75	.....
Spring Gulch†	.....	.....	.....	1.30	14.0
Stamford *[1]	57	— 2	27.8	1.15	11.5
Sulphur Springs† [1]	59	—21	24.5	0.65	9.7
Surface Creek†	72	9	37.5	0.80	6.0
Thon†	80	— 6	35.6	0.65	9.0
T. S. Ranch†	74	12	39.8	0.60	6.5
Twin Lakes	.....	.....	.....	0.63	8.1
Vernon†	81	—10	38.2	0.15	1.5
Vilas	.....	.....	.....	0.10	1.0
Wallet	.....	.....	.....	0.20	2.0
Watkins *[1]	65	2	34.0	.....	.....
Yuma	.....	.....	.....	0.50	5.0
Connecticut.					
Bridgeport *[1]	50	17	34.0	3.04	3.4
Canton	54	4	31.4	2.39	5.0
Colchester	54	14	33.9	2.13	3.0
Falls Village	.....	.....	.....	2.44	13.0
Greenfield Hill	.....	.....	.....	2.45	4.6
Hartford *b*	.....	.....	.....	2.39	4.0
Hartford *c*	50	15	33.0	.....	.....
Middletown	54	16	34.6	2.59	6.0
North Grosvenor Dale	48	9	31.1	3.18	6.0
New Haven	.....	.....	.....	.....	5.0
New London	.....	.....	.....	.....	4.9
Norwalk	53	13	33.5	2.45	4.5
Southington *[1]	48	15	32.4	2.13	5.2
South Manchester	.....	.....	.....	2.89	.....
Storrs	53	10	30.9	2.62	3.5
Thompson *[1]	48	12	30.3	.....	.....
Voluntown†	55	11	34.6	3.37	7.3
Wallingford†	.....	.....	.....	3.61	4.0
Waterbury	51	14	33.6	2.58	4.0
West Simsbury	.....	.....	.....	2.30	7.5
Windsor	49	12	32.2	2.76	7.6
Delaware.					
Dover†	67	23	40.6	3.79	
Kirkwood [2]	.....	.....	36.4*	.....	.....
Milford	69	24	42.4	2.69	
Millsboro	68	22	42.0	4.66	2.0
Newark	63	19	37.9	3.09	0.5
Seaford†	67	22	41.8	3.84	.....
Wilmington†	67	19	40.7	3.61	1.2
District of Columbia.					
Dist'ling Reservoir *[5]	67	26	41.8	2.63	.....
Receiving Reservoir *[5]	68	22	40.8	2.50	.....
Washington	.....	.....	.....	.....	0.1
West Washington	79	22	44.4	2.73	0.4
Florida.					
Amelia†	84	39	62.1	3.43	
Archer†	90	33	65.0	2.33	
Avon Park†	90	42	68.4	1.70	
Brooksville†	85	35	65.5	1.98	
Clermont†	88	43	66.8	1.28	
De Land†	86	33	64.4	.....	
Florida—Cont'd.	°	°	°	*Ins.*	*Ins.*
Eustis†	89	37	65.4	1.94	
Federal Point†	86	36	63.3	1.57	
Fort Meade†	86	35	65.4	1.81	
Grasmere†	88	39	67.1	1.54	
Green Cove Springs†	82	34	60.5	2.49	
Homeland†	87	35	67.3	1.37	
Hypoluxo *† [1]	86	47	68.5	1.86	
Kissimmee†	88	42	67.0	1.40	
Lake City†	85	40	64.8	3.59	
Manatee†	84	35	66.0	2.49	
Merritts Island†	86	46	69.8	1.27	
Mullet Key†	79	48	64.8	1.65	
Myers†	84	44	67.9	1.41	
New Smyrna†	85	35	64.2	2.38	
Oak Hill *[1]	82	47	67.1	.....	
Ocala *† [1]	86	34	64.1	1.12	
Orange City†	87	34	65.6	2.64	
Orange Park	84	30	61.6	2.55	
Orlando†	90	39	67.5	1.70	
Plant City†	89	36	67.4	1.05	
St. Francis Barracks	85	41	63.1	0.85	
Tallahassee†	85	29	59.4	6.83	
Tarpon Springs†	86	33	64.7	1.06	
Georgia.					
Adairsville†	84	25	49.8	6.10	
Alapaha†	88	32	58.9	5.05	
Albany†	87	31	58.0	4.43	
Americus†	89	26	56.6	7.23	
Athens *a*	82	24	50.4	8.56	
Athens *b*†	83	25	51.5	7.24	
Atlanta	.....	.....	.....	.....	T.
Bainbridge *b*†	.....	.....	.....	5.21	
Blakely *† [6]	85	32	59.4	4.30	
Brag†	88	30	57.9	4.44	
Brunswick†	85	37	60.0	3.52	
Camak†	79	31	50.8	8.44	
Canton†	.....	.....	.....	7.42	
Clayton†	83	23	46.8	6.99	
Columbus†	88	29	57.3	10.60	
Covington	84	25	51.7	9.56	T.
Dahlonega†	82	20	48.6	7.34	T.
Darien†	88	40	64.3	4.82	
Diamond†	81	19	46.0	7.45	
Dublin *b*	.....	.....	.....	7.48	.....
Elberton†	87	25	51.8	7.53	
Fleming†	84	30	57.3	5.94	
Forsyth *[1]	87	30	56.8	6.96	
Fort Gaines†	84	30	58.8	7.35	
Gillsville	.....	.....	.....	5.26	
Hawkinsville†	85	33	60.8	6.90	
Hephzibah *† [6]	82	36	55.6	8.18	
Lagrange†	84	24	52.6	8.44	
Leverett	83	27	51.0	7.42	
Louisville†	83	29	54.8	7.64	
Macon *b*	86[1]	29[1]	50.6[1]	7.25	
Marietta†	83	23	50.0	5.30	
Marshallville†	85	28	57.4	10.33	
Milien†	87	33	58.0	6.02	
Monticello *† [1]	85	34	54.7	7.76	
Piscola	85	34	60.4	7.15	
Point Peter *[1]	80	28	51.5	8.40	
Poulan†	86	30	56.8	5.67	
Ramsey†	83	21	51.8	5.92	
Resaca†	.....	.....	.....	7.07	
Reynolds†	.....	.....	.....	10.36	
Rome†	84	26	49.6	6.39	
Talbotton†	84	26	55.2	8.79	
Thomasville†	87	31	59.8	5.07	
Toccoa†	84	25	51.4	6.37	
Washington†	82°	30°	53.4°	7.17	
Whitesburg†	.....	.....	.....	9.96	
Idaho.					
American Falls†	70	12	35.3	1.72	5.0
Atlanta†	56	— 2	28.2	1.59	18.0
Bliss†	74	16	39.4	0.36	1.0
Boise Barracks†	77	14	41.2	T.	
Challis	70	— 5	30.5	0.55	2.5
Chesterfield†	57	—19	24.6	0.60	4.0
Corral *[1]	80	0	37.0	1.80	7.0
Fort Sherman†	65	5	36.8	1.44	11.6
Fraser†	61	12	36.6	1.78	.....
Garden Valley†	57	8	34.3	1.34	11.0
Gibbonsville†	70	— 8	32.2	0.84	2.0
Grangeville	65	3	35.9	2.79	24.4
Hailey†	62	— 3	30.4	1.80	8.8
Idaho City†	65	4	33.6	1.81	15.1
Idaho Falls	.....	.....	.....	.....	10.2
Kootenai†	58	13	34.8	0.35	.....
Lake†	50	— 13	17.6	1.40	14.0
Lewison†	71	14	44.4	0.58	T.
Lost River†	.....	.....	.....	0.74	3.0
Marion *[1]	72	13	36.2	0.18	.....
Martin†	52	— 5	26.2	3.10	6.0
Moscow†	56	12	36.9	1.16	T.
Murray†	63	4	34.4	1.46	21.0
Nampa	78	12	40.2	0.09	0.6
Oakley†	76	10	38.5	T.	.....

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Idaho—Cont'd.	°	°	°	*Ins.*	*Ins.*
Paris†	61	−7	28.4	0.91	5.4
Payette†	75	16	41.7	0.15	T.
Salubria†	65	6	35.4	0.70	4.0
Soldier†	60	−9	25.8	1.41	9.5
Swan Valley†	55	−20	27.2	1.69	19.5
Three Creek†	65	−2	33.2	0.95	9.5
Warren†	.....	−9	.....	2.82	.....
Illinois.					
Albion†	83	18	43.0	1.45	3.5
Atwood*†3	.....	10	33.4	0.72	T.
Aurora†	82	8	32.5	1.14	2.7
Beardstown†	.....	.....	.....	0.90	T.
Bloomington†	85	4	37.2	1.68	4.5
Braidwood†	81	11	36.0	1.04	3.3
Bushnell†	85	10	38.0	0.69	4.0
Cairo	.....	.....	.....	.....	0.1
Carlinville†	85	13	41.4	1.60	3.8
Carlyle	.....	.....	.....	1.97	.....
Carrollton	83	11	37.6	1.88	8.1
Chemung*1	80	0	30.4	2.18	16.8
Chester†	.....	.....	.....	3.51	9.5
Chicago	.....	.....	.....	.....	5.2
Clear Creek†	84	6	36.8	0.86	2.0
Cordova†	.....	.....	.....	1.28	.....
Decatur†	85	9	40.4	1.18	2.2
Dixon†	84	6	33.4	0.83	0.8
Duquoin	.....	.....	.....	3.02	10.8
East Peoria†	84	6	37.6	1.11	5.0
Effingham†	80	14	41.4	1.65	3.0
Evanston*10	80	10	32.4	.....	.....
Fort Sheridan†	79	6	31.5	0.45	3.7
Galva†	84	6	35.8	0.85	3.2
Gilman†c	84	5	36.6	0.53	.....
Golconda†	83e	22e	48.0	3.16	0.9
Grafton†	.....	.....	.....	1.58	9.9
Greenville†	85	14	42.2	2.66	4.7
Griggsville†	85	9	41.4	3.15	8.0
Halliday*5	81e	22e	43.1e	2.79	2.0
Havana†	84	13	41.7	1.04	3.0
Herrins Prairie*1	80	24	44.8	1.20	2.5
Jordans Grove†	82	18	45.1	2.53	2.7
Kankakee†	77	12	34.1	1.02	.....
Lagrange†	80	9	34.2	0.85	3.0
Lexington*†1	80	12	36.0	1.06	2.5
Louisville†	83	17	42.9	1.63	3.1
McLeansboro*†3	.....	19	39.0	.....	4.0
Martinsville†	80	16	40.0	1.20	4.2
Mascoutah*5	85	16	41.5	2.19	6.2
Mattoon*1	78	21	43.7	1.04	1.6
Monmouth†	84	8	37.9	0.84	4.2
Mount Carmel†	.....	.....	.....	2.61	7.0
Mount Pulaski	83	10	39.2	2.01	6.0
New Burnside†	86	21	46.2	2.65	T.
Olney a*1	83	17	43.8	1.40	3.0
Olney b*1	90	13	38.5	0.93	.....
Oregon†	86	1	32.2	0.82	2.0
Oswego*1	78	10	31.4	1.35	3.0
Ottawa†	83	8	34.0	0.82	4.8
Palestine	.....	.....	.....	1.66	2.5
Paris†	84	13	37.7	0.91	2.8
Peoria a†	.....	.....	.....	0.67	1.0
Peoria b	86	14	38.8	1.02	4.0
Philo†	84	10	37.8	1.08	0.2
Rantoul*†5	82	12	37.2	0.95	4.8
Riley†	79	3	30.5	1.32	6.2
Rockford*†1	83	4	31.1	2.53	13.5
Rushville	86	12	40.1	1.03	3.2
St. John*†5	81	20	43.7	2.94	4.0
Springfield	.....	.....	.....	.....	2.9
Streator†	84	11	36.8	1.40	.....
Sycamore*†1	78	6	31.7	1.03	4.0
Tuscola*†1	82	12	39.2	1.09	1.3
Walnut†	85	9	35.9	0.86	3.0
Warsaw	.....	.....	.....	1.29	5.3
Winnebago†	81	4	31.2	1.90	13.0
Zion†	72	2	34.1	0.70	7.5
Indiana.					
Angola*1	62	7	31.4	1.03	6.5
Ashboro†	81	16	40.8	0.50	.....
Bedford	81	13	39.6	0.49	0.9
Butlerville†	84	15	41.0	2.11	3.2
Cambridge City†	78	14	37.6	1.35	2.0
Cannelton†	84	23	46.9	1.56	0.3
Clinton†	.....	.....	.....	1.62	3.0
Columbia City*1	72	10	33.3	0.69	1.0
Columbus†	82	14	39.6	1.64	6.8
Connersville†	78	15	37.5	0.50	1.0
Degonia Springs*5	79	23	44.2	3.36	3.0
Delphi	84	7	36.9	1.06	4.2
Edwardsville*†1	82	21	43.9	2.40	4.6
Evansville†	85	20	44.0	3.31	2.0
Farmland†	78	13	37.1	0.74	4.0
Franklin*1	81	18	38.9	1.07	1.0
Hammond†	80	9	33.8	1.50	4.0
Huntingburg†	86	19	42.9	1.66	5.5
Huntington	79	10	34.0	1.01	6.5
Indianapolis	.....	.....	.....	.....	2.9

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Indiana—Cont'd.	°	°	°	*Ins.*	*Ins.*
Jasper†	83	11	43.8	2.35	5.0
Jeffersonville	84	22	44.0	2.22	2.5
Kokomo†	80	10	36.5	0.93	3.9
Laconia	82	17	42.8	3.95	2.0
Lafayette†	82	8	37.8	1.39	4.8
Logansport a†	.....	.....	.....	0.63	1.0
Logansport b	76	12	36.7	0.93	1.9
Madison†	85	16	42.7	2.86	0.5
Marengo*1	84	6	42.8	4.30	6.0
Marion†	80	9	35.1	2.16	4.8
Mauzy†	78	14	37.0	1.56	3.2
Mount Vernon†	.....	.....	.....	2.98	3.9
Plymouth†	80	9	35.5	0.94	3.1
Princeton*†1	83	18	42.4	2.05	11.0
Rockville†	84	13	39.2	1.62	2.0
Rushville†	.....	.....	.....	1.77	0.9
Scottsburg1	85e	16	41.1	2.64	6.0
Seymour†	84	14	38.7	1.25	4.2
Shelbyville†	80f	18f	38.6f	1.21	3.4
South Bend†	79	6	33.9	0.75	3.5
Sunman*5	80	16	38.5	1.53	4.0
Terre Haute†	82	18	41.8	1.64	1.8
Topeka†	68	5	32.5	0.48	T.
Valparaiso†	78	7	33.7	0.30	3.0
Vevay	82	17	42.2	1.30	12.0
Vincennes†	85	18	42.3	1.96	4.0
Worthington†	81	17	41.5	1.07	0.7
Indian Territory.					
Eufaula†	.....	.....	.....	0.95	.....
Healdton†	89	11	54.9	1.44	.....
Kemp†	89	20	54.7	4.28	.....
Lehigh†	91	17	52.8	2.47	.....
Pursell†	92	6	51.5	0.93	.....
Tahlequah†	89	15	52.4	1.13	.....
Tulsa†	.....	.....	.....	1.10	.....
Iowa.					
Afton	87	−1	36.6	0.76	2.5
Algona*1	87	1	31.2	0.33	3.2
Alta†	82	−5	31.0	1.14	2.1
Amana†	85	4	33.6	0.58	2.0
Ames b	89	0	33.8	0.60	1.0
Ames c	.....	.....	.....	0.68	1.0
Atlantic†	86	0	33.5	0.44	.....
Atlantic (near)	85	−1	36.0	0.44	1.0
Audubon	85	−1	34.9	0.96	1.0
Belknap (near)*1	88	2	36.2	1.05	7.5
Belle Plaine	87	3	35.2	0.50	4.0
Bonaparte†	86	3	37.4	1.34	.....
Carroll	86	0	35.3	1.75	0.8
Cedar Falls†	89	0	33.3	0.22	2.2
Cedar Rapids†	84	5	36.0	0.60	2.4
Centerville†	90	−4	39.5	2.60	1.0
Chariton	83	4	36.9	0.61	3.6
Charles City†	86	0	31.9	0.48	3.2
Clarinda†	84	0	36.5	0.96	3.2
Clinton	85	6	33.8	1.08	3.5
College Springs	90	0	38.4	1.10	6.5
Corning†	87	0	37.6	0.48	2.5
Cresco†	84	−5	28.7	0.83	2.0
Davenport	.....	.....	.....	.....	2.5
Decorah†	84	−4	30.4	0.55	1.0
Delaware*5	86	1	29.9	0.65	4.0
Denison†	79	−2	32.6	.....	.....
Des Moines	.....	.....	.....	.....	3.6
Dubuque	.....	.....	.....	.....	1.0
Eldora	84	−2	32.8	1.15	2.1
Elkader†	88	−1	31.9	0.79	4.0
Emmetsburg	86	−6	31.2	0.22	0.2
Fairfield†	85	5	36.4	1.30	4.5
Forest City	86	−4	28.9	1.05	2.0
Fort Madison*†1	84	11	40.0	1.20	6.5
Galva†	84	−4	33.7	0.91	.....
Garden Grove	87	1	36.4	1.14	2.0
Glenwood†	88	−2	38.8	0.77	3.2
Grand Meadow*1	84	0	30.6	0.86	6.2
Greenfield†	88	−1	35.6	1.13	4.0
Grinnell†	85	5	36.0	0.38	2.5
Grundy Center	89	−1	31.7	0.38	2.0
Guthrie Center	87	1	35.9	0.80	3.0
Hamburg	88	−4	29.7	0.77	4.0
Hawkeye	.....	.....	.....	2.12	9.2
Hopeville†	88	0	36.9	0.50	.....
Hopkinton*5	82	2	33.3	0.40	4.0
Humboldt†	.....	.....	.....	0.80	.....
Independence†	87	−1	32.1	0.47	3.2
Indianola†	89e	0e	35.1e	0.52	0.2
Iowa City†	87	5	37.5	1.25	4.0
Iowa Falls†	87	−4	31.3	0.67	.....
Jefferson†	88	5	35.9	0.60	.....
Keokuk	.....	.....	.....	.....	5.3
Keosauqua†	85	5	38.6	0.76	5.0
Knoxville	88	1	34.2	0.67	3.5
Larrabee†	82	−6	32.8	1.44	2.4
Le Claire	.....	.....	.....	1.35	3.0
Logan†	85	0	35.1	0.26	0.2
Marshall†	90	2	32.5	0.48	.....
Mason City†	83	−4	30.8	0.90	3.5

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Iowa—Cont'd.	°	°	°	*Ins.*	*Ins.*
Maxon*1	88	4	37.3	0.56	3.2
Mechanicsville	85	4	32.4	1.15	7.6
Monticello*†1	86	1	31.3	0.99	2.9
Mooar	84	2	36.3	1.27	.....
Mount Ayr†	88	0	36.8	.....	0.1
Mount Pleasant*1	80	9	37.1	1.74	5.0
Mount Vernon*1	84	3	33.4	.....	.....
Newton†	89	2	35.3	0.33	3.5
North McGregor	.....	.....	.....	0.22	3.0
Ogden	91	−2	34.6	0.72	3.9
Osage*†3	84	0	35.5	0.37	3.0
Osceola	86	0	34.9	0.79	1.5
Oskaloosa†	88	3	36.5	.....	2.1
Ottumwa	87	4	37.5	0.56	2.5
Ovid†	88	2	36.5	1.30	6.9
Panama†	85	−1	35.2	0.83	0.2
Rock Rapids	77	−11	28.2	1.63	3.5
Sac City†	83	−2	30.6	1.62	2.7
Seymour†	87	3	39.5	0.70	5.0
Sibley	77	−10	30.7	0.54	0.5
Sidney†	90	0	45.0	0.67	.....
Sioux City	.....	.....	.....	.....	3.3
Spencer	83	−7	31.7	0.28	1.6
Spirit Lake†j	81	.....	35.8	0.35	1.5
Sutherland	82	−10	30.4	1.34	1.8
Toledo*5	86	1	32.4	0.55	1.0
Villisca†	88	1	36.1	0.74	.....
Vinton*1	88	3	33.5	0.31	0.5
Washington†	88	5	34.9	1.11	2.0
Waterloo	85	0	32.0	0.41	3.5
Waukee	87	1	37.9	0.45	0.5
West Bend*1	84	−1	28.9	0.69	3.0
Williams	87	−3	32.2	0.56	5.5
Wilton Junction†	83	6	34.5	1.49	3.0
Winterset†	90	−2	34.7	0.63	2.2
Kansas.					
Abilene†	90	7	45.3	1.52	1.0
Achilles*†3	91	−12	32.6	0.20	2.0
Altoona*†3	88	12	41.4	1.21	T.
Atchison†	91	4	40.8	0.83	1.5
Beloit†	93	7	45.8	0.55	1.0
Blaine*1	86	−6	36.0	2.45	4.5
Burlington†	92	9	43.0	1.85	4.0
Colby†	87	−11	38.2	0.15	1.5
Coldwater†	92	3	44.4	0.40	.....
Collyer*5	94	5	36.2	0.20	2.0
Columbus†	89	11	43.6	1.97	0.2
Concordia	.....	.....	.....	.....	3.4
Coolidge†	87	2	40.6	T.	T.
Cunningham†	95	5	43.8	0.08	T.
Dodge City	.....	.....	.....	.....	7.2
Downs	.....	.....	.....	0.35	2.0
Dresden*†2	89	−5	36.8	0.20	2.0
Eldorado	97	7	46.6	2.17	0.2
Elk City*1	92	12	46.4	1.31	0.2
Ellinwood*3	88	5	38.2	1.08	.....
Emporia†	85	8	44.0	2.40	4.0
Englewood†	95	5	43.2	0.36	3.6
Eureka Ranch†	95	−1	40.5	0.10	1.0
Fort Riley†	92	2	44.3	1.39	0.9
Fort Scott	.....	.....	.....	2.37	.....
Frankfort†...	96	4	43.2	0.05	T.
Garden City†	93	0	41.2	0.02	0.1
Garfield	.....	.....	.....	0.90	1.0
Gibson*1	92	−1	34.8	T.	T.
Girard*1	90	9	44.0	1.61	.....
Gove*†1	92	−4	39.9	0.20	2.0
Grainfield*6	86	0	38.0	0.15	1.5
Grenola*1	90	11	44.8	1.00	T.
Grinnell*1	98	2	35.7	.....	2.2
Halstead	86	2	41.5	0.35	0.2
Hays City	93	−7	41.9	0.10	1.0
Horton†	90	5	40.8	0.84	0.5
Hutchinson†	95	5	45.2	0.98	3.8
Independence	93	11	46.5	0.87	0.2
Ionia†	94	0	40.6	0.20	2.0
Jaqua†	84	−13	39.6	0.40	4.0
Johnson†	90	2	42.8	0.15	1.5
Kiowa†	98	5	47.2	0.08	.....
Lawrence1	87e	6	43.1	1.47	5.0
Lebo†	92	8	43.7	2.54	4.2
Macksville†	94	3	40.9	1.55	T.
McPherson†	91	5	43.1	2.02	0.5
Manhattan b	95	5	43.0	1.20	6.8
Manhattan c*1	89	5	39.8	1.09	.....
Medicine Lodge	.....	.....	.....	0.21	T.
Minneapolis†	95	5	42.0	0.75	2.8
Morland†	93	−5	39.8	0.32	3.2
Morton†	90	4	43.4	0.05	0.5
Mount Hope*1	92	7	45.6	0.83	T.
Ness City†	.....	.....	.....	0.14	.....
New England Ranch†	88	−7	41.6	0.40	1.2
Norton	90	−7	41.2	0.11	1.1
Oberlin†	.....	.....	.....	0.25	2.5
Olathe†	87	6	42.4	1.47	6.1
Oswego†	91	10	48.0	2.50	.....
Phillipsburg	92	−4	36.0	T.	T.

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Kansas—Cont'd.	°	°	°	*Ins.*	*Ins.*
Pleasant Dale†	92	2	41.8	0.42	2.0
Quinter*†	90	2	44.5	0.25	2.5
Rome*†	92	10	46.1	0.45	T.
Salina†	92	5	40.2	1.38	4.0
Sedan†	92	10	47.2	1.09	
Sharon Springs*†	82	3	42.2	0.12	1.2
Silver Lake*§	98	8	40.4	2.34	1.9
Topeka	.....	.....	.....	.....	2.0
Ulysses†	92[d]	— 2[d]	39.8[d]	0.05	0.5
Wakefield*†	98	7	42.6	1.20	5.0
Wallace *a*	.....	.....	.....	0.18	2.5
Wamego*†	92	6	41.4	1.55	4.0
Wellington*†	88	10	48.6	0.55	T.
Wichita	.....	.....	.....	.....	2.1
Winfield*§	92	10	44.8	0.37	T.
Winona*§	84	12	37.2	0.02	0.2
Yates Center†	90	9	43.2	1.16	3.5
Kentucky.					
Alpha†	87	18	48.2	5.73	0.1
Blandville†	83	20	45.6	3.15	T.
Bowling Green *a**†	84	18	43.9	3.67	T.
Bowling Green *b*†	85	21	46.8	3.54	T.
Burnside†	.....	.....	.....	4.39	
Caddo†	86	17	42.0	2.00	.....
Canton*†[1]	83	24	48.0	4.26	0.2
Carrollton†	88	18	42.0	1.16	3.2
Catlettsburg*†§	79	17	45.3	4.21	6.0
Cromwell*†	80	29	43.2	2.87	.....
Earlington	79[d]	20[d]	44.4[d]	4.29	.....
Eddyville†	.....	.....	.....	3.80	T.
Edmonton†	80	19	45.4	4.46	2.3
Elizabethtown†	86	21	45.8	2.41	.....
Eubank†	87	15	44.4	4.38	1.5
Falmouth†	.....	.....	.....	1.73	.....
Fords Ferry†	85	20	47.0	3.33	0.5
Franklin*†	85	26	47.7	5.81	.....
Georgetown	82	20	43.4	.....	.....
Greendale	.....	.....	..	2.90	5.5
Greensburg†	.....	.....	.....	4.39	1.5
Harrods Creek†*	84	21	43.9	1.80	2.0
Henderson†	86	34	47.0	3.19	T.
Hendricks†	.....	.....	.....	2.00	6.0
Herbert	84[c]	19[c]	44.2[c]	2.89	
Lexington	.....	.....	.....	.....	3.1
Louisa†	85	22	42.4	3.87	.....
Louisville	.....	.....	.....	.....	0.9
Marrowbone†	84	17	45.4	4.45	1.8
Matlock	84	20	47.0	4.15	T.
Middlesboro	79[d]	19[d]	44.4[d]	1.36	T.
Mount Sterling†	84	19	42.5	3.86	2.0
Paducah *a*†	.....	.....	.....	3.22	.....
Paducah *b*†	86	23	47.8	3.30	T.
Pleasure Ridge Park†	84	21	43.2	2.51	3.1
Princeton†	84	19	45.2	2.43	.....
Richmond†	82	23	47.3	1.85	T.
Russellville†	86	21	47.8	3.88	T.
Shelby City*†	90	21	42.9	3.74	1.8
Shelbyville†	87	17	43.2	2.11	2.0
South Fork†§	.....	.....	41.9	3.38	2.0
Springfield†	82	21	45.4	3.62	1.1
Williamsburg	.....	.....	.....	4.37	.....
Louisiana.					
Abbeville	83	34	62.2	3.51	
Alexandria†	83	31	59.6	7.68	
Amite†	88	28	62.0	8.38	
Bastrop†	87	28	57.4	7.76	
Baton Rouge†	84	33	61.6	9.14	
Calhoun†	84	28	56.0	4.07	
Cameron†	.....	.....	.....	4.40	
Cheneyville†	83[c]	30[c]	60.2[c]	5.46	
Clinton†	83	30	61.0	5.03	
Coushatta *a*†	.....	.....	.....	5.91	
Coushatta *b*†	86	25	59.0	5.13	
Covington†	83	29	60.2	6.97	
Davis	83	25	55.0	7.58	
Delhi†	.....	.....	.....	4.93	
Donaldsonville†	86	33	62.8	5.61	
Emile†	83	32	60.4	6.21	
Farmerville	84	27	55.2	5.41	
Franklin†	83	32	62.8	3.78	
Grand Coteau	84	37	62.8	4.86	
Hammond†	85	29	61.8	8.02	
Houma†	86	.....	.....	2.97	
Jeanerette†	84	35	62.6	3.72	
Lafayette†	84	34	61.9	4.69	
Lake Charles†	84	34	62.9	3.79	
Lake Providence†	90[d]	23[d]	57.0[d]	8.53	
Lawrence†	82	34	62.6	5.20	
Liberty Hill	88	26	58.4	5.46	
Maurepas	89	29	62.7	4.82	
Melville†	85	29	60.2	5.00	
Monroe†	84	31	58.6	6.61	
Natchitoches†	85	29	58.9	4.15	
New Iberia	80	37	61.9	3.20	
Oberlin	85	31	60.6	5.10	
Opelousas†	83	33	60.4	5.82	
Oxford†	85	22	57.0	3.60	
Louisiana—Cont'd.					
Paincourtville†	85	31	63.1	5.28	
Plain Dealing†	83	27	55.8	6.12	
Rayne†	85	35	62.4	5.60	
Schriever†	85	31	64.2	4.02	
Shell Beach	85	35	64.9	3.52	
Southern University†	82	32	60.4	2.25	
Sugar Ex. Station†	81	34	61.2	3.98	
Sugartown†	80	23	59.5	5.17	
Thibodeaux	.....	.....	.....	4.52	
Wallace	86	34	62.0	5.48	
West End	.....	.....	.....	4.30	
Maine.					
Belfast*§	46	9	28.3	3.06	8.0
Calais†*	51	3	28.3	2.52	5.0
Cornish*†	50	6	28.2	2.86	15.0
Eastport	.....	.....	.....	.....	4.8
Fairfield	51	— 6	27.7	1.58	6.0
Farmington†	53	— 6	27.2	1.98	8.8
Gardiner	52	— 6	28.6	2.48	7.2
Indian Stream	50	—14	21.5	1.25	11.0
Kineo†	41	— 5	20.8	1.22	9.0
Lewiston	49	— 4	27.2	2.10	8.5
Madison*†	50	—12	27.4	.....	12.0
North Bridgton	50	— 7	26.8	1.73	11.8
Orono†	47	— 4	26.1	2.39	.....
Petit Menan*†	43	15	29.8	.....	.....
Portland	.....	.....	.....	.....	11.1
West Jonesport*†	46	8	28.3	.....	.....
Maryland.					
Bachmans Valley*†	62	20	36.2	1.93	1.6
Baltimore	.....	.....	.....	.....	0.6
Bel Alton	73	25	44.4	2.85	.....
Boettcherville*†	66	18	38.2	2.60	6.0
Burkittsville	63	21	41.9	2.73	4.8
Charlotte Hall†	70	22	43.2	3.28	T.
Cherryfields†‡	.....	.....	41.8	3.55	3.5
Chestertown†	66	22	39.2	2.17[a]	.....
College Park	72	20	41.4	2.73	.....
Cumberland *a*†	65	22	37.8	2.45	3.0
Cumberland *b*	69	21	41.8	2.81	.....
Darlington†	66	19	38.4	2.73	1.5
Deer Park	67	— 7	33.0	3.25	9.2
Denton†	71	23	40.6	4.05	0.5
Easton†	74	23	42.8	3.45	.....
Fallston*†	64	20	38.2	2.85	0.8
Frederick *a*	69	21	40.0	2.49	.....
Frederick *b*	66	22	41.0	.....	.....
Garrison	66	19	39.0	2.47	3.0
Grantsville	67	9	33.8	3.10	14.0
Great Falls*§	70	24	40.8	2.86	.....
Hancock	70	17	40.0	1.74	1.0
Jewell†	71	22	42.8	3.26	T.
Johns Hopkins Hospital	70	21	39.3	.....	.....
La Plata†	70	26	43.2	3.15	.....
McDonogh *c*	67	19	39.8	.....	.....
Mardela Springs†	68	23	41.9	3.30	1.5
Mt. St. Marys College[1]	61*	14	38.6	1.80	.....
Oakland†	66	— 3	33.2	5.22	.....
Pocomoke City	68	26	43.9	4.43	1.5
Princess Anne	65	23	42.3	4.28	3.2
Sharpsburg	64	22	39.2	2.56	0.8
Solomons†	69	25	43.2	3.29	1.0
Sunnyside	69	2	31.4	6.20	22.2
Upper Marlboro†	78	22	41.2	3.50	T.
Western Port	60	12	37.0	1.10	5.0
Westminster	69	17	41.0	2.75	T.
Woodstock	69	18	39.8	1.52	3.2
Massachusetts.					
Adams	50	8	30.0	.....	24.0
Amherst	50	6	31.3	2.61	9.0
Amherst Ex. Station *a*	48	1	29.4	2.35	11.0
Amherst Ex. Station *b*	49	5	31.2	2.71	13.0
Andover	60[f]	9[f]	32.2[f]	1.50	12.0
Ashland	.....	.....	.....	3.01	.....
Bedford	50	10	32.3	2.44	6.5
Beverly Farms	50	11	32.3	3.40	8.0
Blue Hill (summit)	52	11	30.5	2.93	7.9
Blue Hill (valley)	51	14	32.9	3.00	.....
Boston (V. O.)	.....	.....	.....	2.92	.....
Boston (W. B.)	.....	.....	.....	.....	3.8
Brockton *a*	54	14	34.5	3.17	4.2
Brockton *b*	.....	.....	.....	3.14	.....
Brockton *c*	.....	.....	.....	2.95	.....
Cambridge *a*	54	13	33.6	2.66	.....
Cambridge *b*	53	12	33.0	2.70	.....
Chestnut Hill	54	12	33.8	2.91	6.6
Clinton	.....	.....	.....	1.80	.....
Concord†	51	9	31.6	2.35	5.5
Dudley	55	11	30.8	2.12	4.2
East Templeton*†	52	10	29.1	3.39	10.0
Egg Rock, Nahant	46	12	31.7	.....	.....
Fall River	52	17	34.5	3.76	5.5
Fiskdale	.....	.....	.....	2.17	3.0
Fitchburg *a*†	51	9	30.0	2.55	10.0
Fitchburg *b*	51	6	30.7	2.84	10.8
Framingham	52	11	32.5	2.95	.....
Gilbertville†‡	59	6	32.0	.....	.....
Massachusetts—Cont'd.					
Groton	50	6	30.6	2.79	12.5
Hadley	55	3	30.4	.....	.....
Hingham	.....	.....	.....	3.10	7.0
Hobbs Brook	.....	.....	.....	2.66	6.1
Hyannis	51	20	34.8	4.23	7.5
Hyde Park*§	.....	12	31.8	.....	3.0
Lake Cochituate	54	2	32.8	3.11	.....
Lawrence	49	7	31.8	2.32	9.5
Leeds	50	— 4	29.7	2.12	11.0
Leominster*§	48	8	30.4	2.69	10.0
Long Plain*§	50	18	34.0	3.67	4.0
Lowell *a*	50	8	31.4	2.66	.....
Lowell *b*	51	9	32.0	.....	.....
Lowell *c*	53	9	33.4	.....	.....
Ludlow Center	45	5	27.0	2.14	3.5
Lynn *a*	53	11	32.6	3.90	.....
Lynn *b*	51	14	33.9	.....	.....
Mansfield*†	55	16	33.8	3.74	6.0
Middleboro	55	12	33.5	3.16	3.2
Milton	56	14	35.0	2.54	3.5
Monroe	49	0	24.5	2.36	26.0
Monson	56	10	34.0	1.97	8.0
Mount Nonotuck	.....	.....	.....	1.51	12.0
Mystic Lake	.....	.....	.....	3.15	.....
Mystic Station	.....	.....	.....	2.85	.....
Nantucket	.....	.....	.....	.....	8.4
Natick*†	53	12	31.8	3.67	5.8
New Bedford *a*	53	17	35.4	4.72	6.1
New Bedford *b*	53	17	35.0	4.49	4.2
North Billerica	57	14	35.0	2.34	13.0
Pittsfield	50	7	27.4	1.85	.....
Plymouth*†	56	19	35.4	2.71	1.0
Provincetown	49	19	34.4	3.90	3.5
Roberts Dam	.....	.....	.....	2.84	4.0
Roxbury	55	15	34.7	2.74	5.5
Salem	.....	.....	.....	3.12	5.5
Salisbury	.....	.....	.....	2.90	11.0
Somerset*†	57	16	36.1	3.38	4.5
Springfield Armory	53	11	32.7	2.24	6.8
Taunton *b*	55	17	35.7	3.61	2.5
Taunton *c*	54	15	35.2	3.74	.....
Taunton *d*	52	14	33.3	3.11	2.0
Turners Falls	49	1	31.4	2.15	.....
Vineyard Haven	.....	.....	.....	.....	6.7
Wakefield†	51	12	33.1	3.07	8.0
Waltham	.....	.....	.....	3.01	.....
Webster	.....	.....	.....	3.20	5.8
Wellesley	50	9	33.0	.....	.....
Westboro†	55	10	33.5	2.39	8.0
Williamstown	45	9	28.2	2.10	.....
Winchendon	.....	.....	.....	2.17	11.0
Winchester	.....	.....	.....	2.85	.....
Woods Holl	.....	.....	.....	.....	9.3
Worcester *a*	51	11	31.4	2.08	.....
Worcester *b*	52	14	32.6	2.67	10.0
Worcester *c**†	51	10	30.4	.....	.....
Michigan.					
Adrian	65	— 7	29.8	1.14	4.5
Albion	61	2	28.8	1.35	11.7
Allegan	64	2	30.4	0.86	3.9
Alma	59	— 5	25.5	0.96	6.5
Alpena	.....	.....	.....	.....	1.9
Ann Arbor	60	— 2	27.6	0.76	4.0
Arbela*§	.....	2	23.9	0.57	2.2
Ball Mountain	56	— 6	24.6	1.02	8.5
Battle Creek	65	2	30.2	0.87	4.7
Bear Lake§	46[f]	—13	22.4	.....	.....
Benton Harbor	73	4	29.6	.....	.....
Benzonia	49	— 5	21.8	1.53	11.5
Berlin*†	60	— 9	24.5	1.51	9.6
Berrien Springs*†	74	9	32.8	1.55	7.5
Birmingham	60	0	27.4	0.97	7.2
Boon	51	—19	18.4	1.74	11.2
Bronson	54	4	28.1	0.61	4.5
Brown City	59	— 6	24.3	0.23	4.2
Calumet	47	—12	19.0	0.48	5.2
Charlevoix	57	— 9	24.1	0.22	2.2
Cheboygan	53	—12	19.8	0.39	5.0
Clinton	63	— 3	29.0	0.94	4.0
Crystal Falls	54	—15	20.3	0.50	4.0
Detroit	.....	.....	.....	.....	13.2
Escanaba†	58	—11	24.1	.....	.....
Fairview	61	0	28.2	0.91	6.8
Fitchburg	60	— 4	26.6	1.38	7.5
Flint	60	— 6	24.4	0.87	1.2
Gladwin	55	— 6	22.4	1.56	6.0
Grand Haven	.....	.....	.....	.....	5.8
Grand Point au Sable*‖	46	2	24.9	.....	.....
Grand Rapids	59	0	29.8	1.34	7.7
Grape	62	— 1	29.0	0.80	8.5
Grayling	46	—16	17.8	0.40	2.0
Grindstone City*§	48	— 3	23.8	.....	.....
Hanover	65	— 1	30.1	1.06	4.5
Harbor Springs	47	—14	20.4	.....	.....
Harrison	52	—10	20.1	0.54	0.4
Harrisville	55	— 9	22.8	0.82	8.1
Hart	60	— 3	25.8	1.45	10.0

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Michigan—Cont'd.	°	°	°	*Ins.*	*Ins.*
Hastings	59	— 1	28.0	1.36	8.8
Hayes	56	— 5	24.6	0.80	8.0
Hesperia	56	—12	23.8	1.40	7.5
Highland Station	58	— 4	25.7	1.46	5.6
Holland [9]	53	3	30.7	.....	.....
Howell	60	— 3	26.5	0.78	4.9
Ivan	50	—12	20.5	0.89	7.5
Jeddo	56	— 5	23.9	0.71	6.2
Kalamazoo	65	3	31.2	0.67	4.0
Lathrop [1]	50	—15	17.0	0.20	1.0
Lewiston	52	—11	21.6	0.65	.....
Ludington [9]	50	0	29.4	.....	.....
Madison	63	2	29.8	0.91	4.7
Manistee [9 10]	48	— 2	22.0	.....	.....
Marquette	.....	.....	.....	.....	10.6
Mayville	56	— 6	25.5	1.08	8.4
Middle Island [9 10]	53	— 6	24.8	.....	.....
Mottville	71	5	32.4	0.88	4.5
N. Manitou Island [9 10]	48	—11	23.3	.....	.....
North Marshall	63	— 3	26.8	1.06	2.0
Northport	56	— 7	23.8	0.42	6.5
Old Mission	49	—11	23.7	0.78	4.3
Ovid	58	— 4	25.8	0.91	7.0
Parkville	.....	.....	.....	1.09	4.0
Point aux Barques [9 10]	58	— 2	24.4	.....	.....
Point Betsy [9]	48	— 2	27.1	.....	.....
Port Huron	.....	.....	.....	.....	7.9
Rockland [9]	50	—15	22.8	.....	.....
Romeo	58	— 4	25.0	1.20	T.
St. Ignace	49	—11	19.6	0.34	2.5
St. Johns	60	— 2	28.2	1.17	8.0
Sand Beach *a*	57	— 4	34.0	.....	.....
Sault Ste. Marie	.....	.....	.....	.....	8.3
Standish	58	—10	25.3	1.83	4.5
Stanton	57	— 6	25.3	0.59	.....
Thornville	58	— 6	25.6	1.15	9.0
Thunder Bay Island [9 10]	46	— 6	23.4	.....	.....
Vandalia	71	7	33.2	0.77	7.2
Ypsilanti	61	— 4	27.8	0.75	1.9
Minnesota.					
Ada †	58	—22	22.6	0.01	0.5
Albert Lea †	78	— 5	28.2	0.72	1.5
Alexandria *a* †	.....	.....	.....	0.00	.....
Beardsley †	64	—16	26.6	T.	T.
Belle Plaine [1]	60	— 4	27.8	0.18	T.
Bingham Lake †	67	—14	30.3	T.	T.
Bird Island	59	—12	26.6	0.72	1.2
Blooming Prairie †	78	— 7	27.4	0.31	1.0
Bonniwells Mills †	46	—12	19.3	0.51	.....
Caledonia †	72	— 6	29.0	0.54	2.0
Cambridge †	55	—10	26.6	0.61	1.5
Camden †	65	—14	27.6	0.34	T.
Campbell	64	—19	25.8	0.09	T.
Clear Lake †	52	—13	24.4	0.30	.....
Clear Water [1]	55	—10	26.0	T.	.....
Collegeville	60	—16	28.6	0.04	T.
Crookston †	56	—21	22.8	0.30	3.0
Dawson [1]	60	—18	26.8	T.	.....
Duluth	.....	.....	.....	.....	3.6
Farmington †	62	— 6	28.0	0.93	1.5
Fergus Falls †	56	—20	24.6	0.03	0.3
Fort Ripley †	.....	.....	.....	0.12	.....
Grand Meadow †	84	— 7	25.6	0.43	5.0
Grand Portage †	44	—13	20.6	1.11	.....
Granite Falls *	62	—16	30.6	0.41	1.0
Hutchinson †	58	—11	27.2	0.75	0.5
Jadis † *	54	—22	19.6	0.23	3.7
Koochiching †	54	—32	14.4	0.40	8.4
Lake Winnibigoshish [1]	51	—22	19.3	0.08	1.0
Lawrence †	52	—15	23.8	0.29	.....
Leech Lake [1]	52	—29	18.0	0.05	.....
Long Prairie †	55	—30	23.4	T.	T.
Luverne †	75	—10	28.2	2.26	.....
Maple Plain	60	—10	31.0	0.67	1.8
Marfield †	49	—33	18.4	0.26	.....
Mazeppa [1]	54	0	27.9	0.10	T.
Milan †	62	—16	25.8	0.05	0.5
Minneapolis *a* †	58	— 9	28.2	0.51	0.7
Minneapolis *b* †	58	— 8	27.1	0.49	0.7
Minneapolis (W. B)	.....	.....	.....	.....	0.4
Minnesota City †	66	0	29.6	0.53	3.0
Montevideo †	62	—15	28.2	0.54	2.3
Moorhead	.....	.....	.....	.....	0.3
Morris †	60	—18	26.4	T.	.....
New London	55	—14	26.6	T.	T.
New Richland [1]	78	0	30.5	.....	.....
New Ulm †	62	— 8	32.0	0.31	0.5
Park Rapids †	54	—24	20.0	0.07	0.7
Pine River [1]	49	—20	21.2	0.71	0.2
Pleasant Mounds [1]	72	— 4	28.7	0.36	1.5
Pokegama Falls [1]	52	—24	19.5	0.00	.....
Red Lake †	55	—25	18.6	0.07	0.7
Red Wing	.....	.....	.....	0.20	.....
Redwood Falls †	.....	.....	.....	0.84	1.0
Rolling Green †	73	— 8	29.8	0.35	1.5
St. Charles †	66	— 6	28.4	0.38	1.0
St. Cloud	53	—12	25.6	0.24	T.
St. Olaf	56	—19	25.7	0.25	0.8
St. Paul	.....	.....	.....	.....	0.8
St. Peter †	66	— 5	29.1	0.51	0.5
St. Vincent	.....	.....	.....	.....	2.0
Sandy Lake Dam [1]	49	—20	20.3	0.04	0.5
Sauk Center [1]	55	—20	25.2	T.	T.
Shakopee [6]	60	— 6	28.8	0.28	.....
Sunrise City [6]	54	— 4	25.8	0.85	3.5
Two Harbors †	53	—11	24.5	0.71	4.0
Wabasha [1]	64	— 1	29.2	0.50	2.5
Willmar †	57	—14	25.2	0.40	1.0
Winona	62	0	29.8	0.54	2.2
Worthington	73	—12	28.6	0.83	0.3
Zumbrota [1]	66	— 2	28.8	.....	.....
Mississippi.					
Agricultural College	83	27	53.9	8.03	T.
Batesville †	83	34	52.6	4.24	
Bay St. Louis †	81	32	59.3	7.50	
Biloxi †	76	30	58.2	7.13	
Briers	82	31	58.0	7.35	
Brookhaven †	86	36	60.1	7.77	
Canton †	81	31	56.5	7.08	
Clarksdale †	88	30	54.2	3.13	
Columbus †	88	26	55.3	7.17	
Corinth †	70	20	48.1	6.26	
Crystal Springs †	86	27	57.6	7.73	
Duck Hill †	83	23	53.6	8.03	
Edwards	86	31	57.8	6.36	
Fayette †	85	29	58.5	2.70	
French Camps †	83	22	53.8	8.89	T.
Fulton †	86	30	52.8	8.50	0.5
Greenville *a*	82	29	55.2	7.37	
Greenville *b* †	.....	.....	.....	7.37	
Hattiesburg †	85	24	56.6	7.04	
Hernando †	80	26	51.6	4.55	
Holly Springs †	84	24	51.8	6.22	
Itta Bena [1]	82	30	55.8	4.97	
Jackson †	83	29	57.6	5.04	
Kosciusko †	83	30	55.8	7.36	
Lake	82	27	53.8	4.10	
Leaf [1]	80	30	56.0	.....	
Leakesville †	87	29	59.8	5.93	
Logtown †	82	32	62.4	5.53	
Louisville †	84	32	54.8	8.08	0.3
Macon †	85	26	55.4	6.18	
Mayersville	85	28	57.0	9.20	
Meridian	.....	.....	.....	.....	T.
Moss Point †	79	32	60.3	9.45	
Natchez †	85	32	59.8	7.85	
Okolona †	86	24	54.0	8.32	
Palo Alto †	84	38	54.8	9.84	0.1
Pontotoc †	86	27	54.7	6.25	1.0
Port Gibson †	83	30	57.3	5.01	
Rosedale †		23		5.71	
Stonington [1]	84	36	61.6	.....	
Thornton †	82	35	58.9	5.22	
Topton [5]	82	32	59.0	4.95	T.
University †	85	23	53.2	3.32	
Valden †	88	25	56.0	9.32	0.1
Water Valley [1]	89	36	53.7	6.71	
Waynesboro *a* †	90	28	56.0	3.95	
Woodville †	84	30	60.2	5.01	
Yazoo City †	89	28	59.3	8.30	
Missouri.					
Akron	.....	.....	.....	1.66	4.5
Appleton City †	86	10	44.2	1.82	3.0
Arlington †	.....	.....	.....	0.90	6.0
Arthur [2]	.....	11	38.5	2.25	.....
Bagnell †	.....	.....	.....	2.02	11.0
Bethany	88	3	38.8	1.05	3.2
Big Piney	.....	.....	.....	1.35	8.0
Birch Tree	86	15	46.5	3.42	0.5
Bluffton [1]	90	12	44.5	1.64	2.5
Boonville †	.....	.....	.....	2.23	8.4
Brunswick	84	5	41.1	2.09	1.2
Carrollton †	83	7	42.4	1.44	5.0
Carthage	.....	.....	.....	1.98	0.5
Columbia	.....	.....	.....	.....	10.3
Conception	87	2	40.1	0.26	2.0
Cowgill [5]	88	8	42.9	0.36	1.5
Darksville †	80	5	40.6	1.38	5.5
Downing	.....	.....	.....	2.63	2.5
East Lynne [3]	.....	8	37.2	2.97	12.5
Edgehill [5]	80	18	44.4	3.14	5.1
Eight Mile [1]	86	8	41.2	1.42	11.5
Eldon [1]	86	10	42.7	2.42	4.0
Elmira	89	3	40.9	1.56	2.1
Emma [3]	.....	10	41.6	0.91	9.0
Fairport	.....	.....	.....	0.66	1.5
Farmersville	.....	.....	.....	0.65	2.0
Fayette	86	5	42.4	2.08	7.8
Fox Creek [1]	84	12	42.9	2.75	10.5
Fulton	.....	.....	.....	3.10	6.0
Gallatin [1]	85	5	39.8	0.79	1.6
Gayoso [3]	.....	24	44.0	5.47	
Glasgow	84	6	40.6	1.39	6.5
Gordonville [3]	.....	23	44.2	3.82	0.8
Gorin [3]	93	10	37.2	2.34	5.6
Grove Dale	.....	.....	.....	2.21	10.6
Half Way	85	10	44.8	2.04	1.5
Hannibal	.....	.....	.....	.....	2.7
Harrisonville †	92	8	44.8	1.84	10.0
Hastain	87	9	44.6	2.53	6.5
Hermann †	.....	.....	.....	1.71	4.4
Houston	79	15	44.8	2.78	2.0
Houstonia (near)	.....	.....	.....	2.15	12.2
Ironton * †	80	18	44.0	3.30	3.0
Jefferson City †	87	11	45.5	2.75	4.5
Kansas City	.....	.....	.....	.....	5.1
Kidder	86	4	39.8	0.86	2.6
Lamar	84	12	45.1	2.20	0.8
Lamonte	.....	.....	.....	1.57	10.8
Langdon †	92	4	38.6	0.68	1.0
Lebanon	88	10	45.0	3.25	4.0
Lexington †	87	7	42.8	1.28	6.2
Liberty	91	8	43.4	0.68	5.5
Linn Creek	85	7	45.4	1.71	6.2
Louisiana Bridge †	.....	.....	.....	2.27	5.0
McCune * †	86	8	41.7	3.70	6.5
Marble Hill	.....	16	.....	2.87	T.
Marceline	.....	.....	.....	1.26	1.0
Marshall †	85	5	41.2	1.20	5.8
Maryville [4]	85	2	34.6	0.38	3.8
Mexico †	84	8	41.4	3.11	9.0
Miami	.....	.....	.....	3.38	12.5
Mine La Motte †	81	17	44.5	2.98	2.5
Mount Vernon	82	8	41.1	3.38	1.5
Nevada	.....	.....	.....	2.88	1.0
New Haven [1]	85	17	42.2	2.37	6.5
New Madrid	83	26	50.6	4.64	T.
New Palestine	.....	.....	.....	2.43	9.2
Oakfield †	85	11	44.2	2.77	9.0
Oak Ridge * [4]	.....	20	44.8	3.05	1.6
Olden †	87	15	47.4	3.50	0.5
Oregon *a*	91	4	41.6	0.74	3.6
Oregon *b*	91	3	40.5	0.80	3.4
Osceola †	.....	.....	.....	3.17	4.0
Oto	.....	.....	.....	2.88	0.8
Palmyra [5]	80	6	40.8	1.65	6.0
Panacea	91	11	50.5	2.74	T.
Pickering [3]	98	0	35.8	0.64	3.8
Pierce City	82	8	43.4	1.10	1.0
Platte River [3]	84	6	37.4	0.82	3.0
Poplar Bluff	83	19	48.2	3.43	T.
Potosi	84	11	40.8	2.91	4.1
Princeton [1]	86	3	38.4	1.72	1.5
St. Charles	85	14	43.8	1.24	6.8
St. Joseph †	.....	.....	.....	0.19	1.0
St. Louis	.....	.....	.....	.....	9.1
Sarcoxie [3]	92	10	42.8	2.85	0.6
Shelbina	.....	.....	.....	1.70	2.0
Sikeston	83	21	46.9	3.34	T.
Springfield	.....	.....	.....	.....	1.5
Steffenville	.....	.....	.....	1.18	3.0
Stellada †	88	5	43.3	1.18	9.3
Sublett	85	1	37.0	1.40	1.5
Tindall †	.....	.....	.....	0.55	0.5
Unionville †	87	0	37.8	1.23	8.1
Vermont * [1]	86	7	41.1	1.76	T.
Vilas	.....	.....	.....	1.01	4.0
Warrensburg [1]	86	10	42.8	1.76	11.0
Warrenton	87	7	43.0	3.71	8.5
Wheatland	.....	.....	.....	2.80	5.8
Willow Springs [1]	83	12	43.4	5.38	T.
Montana.					
Basin	.....	.....	.....	0.36	2.0
Billings †	78	—10	36.6	0.74	7.0
Boulder †	64	—11	29.8	0.03	T.
Bozeman †	69	—10	31.2	1.10	11.0
Butte †	61	—11	28.4	0.27	2.1
Choteau †	74	—15	32.0	1.05	10.5
Cokedale †	65	—18	30.9	2.20	22.0
Columbia Falls †	58	— 5	32.4	0.81	8.0
Deer Lodge City †	73	—11	30.2	0.62	7.2
Dillon †	67	—11	30.2	0.21	2.0
Fort Benton †	68	—22	35.2	0.40	.....
Fort Custer †	75	—13	29.2	1.66	14.3
Fort Keogh †	77	— 9	32.0	0.20	T.
Fort Logan †	67	—28	27.8	0.37	6.0
Fort Missoula	67	2	32.6	0.19	2.5
Glasgow †	73	—17	28.2	0.20	.....
Glendive †	81	—12	30.0	0.50	5.0
Great Falls †	70	—10	34.6	0.11	1.9
Havre	.....	.....	.....	.....	3.4
Helena	.....	.....	.....	.....	2.5
Hogan †	68	—17	30.6	0.70	7.0
Kipp †	69	—20	32.2	0.65	6.0
Martinsdale †	71	—22	32.2	1.12	11.2
Marysville †	64	—12	28.2	0.42	5.2
Miles City	.....	.....	.....	.....	0.6
Musselshell	75	—17	32.0	0.15	1.5
Pony † [4]	59	0	28.6	1.03	9.8
Radersburg †	.....	.....	.....	T.	T.
Red Lodge †	60	—21	34.6	1.55	15.5

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Montana—Cont'd.	°	°	°	*Ins.*	*Ins.*
Sun River†	74	−21	30.8	0.40	3.5
Troy†	56	2	28.5	0.42	4.5
Utica†	71	−16	30.2	0.15	1.5
Virginia City†	64	− 6	28.9	1.03	9.5
White Sulphur Springs†	85	−15	28.2	0.13	2.0
Wibaux†	80	−18	34.1	0.05	0.5
Nebraska.					
Agee*1	82	− 2	31.6	1.10	2.0
Albion†	89	0	37.0	0.42	1.0
Ansley†	89	− 6	36.3	0.32	2.8
Arborville*1	92	0	34.8	0.50	5.0
Ashland *a*†	89	0	38.3	0.48	0.5
Ashland *b*†1	84	1	37.1	0.52	1.1
Auburn*†1	93	2	40.2	1.87	5.5
Aurora*1	86	− 2	35.3	.....	.....
Bancroft	82	24	34.1d	0.36	T.
Bassett*1	86	− 4	35.5	1.95	14.5
Beatrice†	91	3	39.2	0.52	5.0
Beaver City	92	− 5	40.3	0.15	1.5
Benkelman*1	88	− 8	39.4	0.10	1.0
Blue Hill*1	86	2	39.6	0.01	0.1
Bratton*1	88	2	38.2	1.66	4.7
Broken Bow*1	85	− 6	34.8	.....	.....
Burchard*1	90	0	40.4	0.50	T.
Burwell*1	78	2	36.2	0.65	4.0
Callaway†	84	− 7	35.8	0.12	1.5
Central City*5	90	6	41.3	0.11	0.5
Chadron*1	96	−20	33.6	1.33	12.3
Chester*1	86	2	38.8	0.10	T.
Columbus†	88	1	38.8	1.13	3.0
Cornlea	.....	.....	.....	1.01	.....
Cortland*1	87	2	36.4	1.00	0.4
Creighton†	85	− 7	31.4	1.67	4.9
Crete	90	0	38.8	0.71	4.9
Culbertson	.....	.....	.....	0.10	1.0
Curtis *a*†	.....	.....	.....	T.	T.
Curtis *b**1	71	−10	39.4	0.05	0.5
David City*†1	86	0	35.8	0.30	2.0
Dunning*1	78	− 8	35.1	0.28	2.5
Edgar*1	88	− 2	38.7	0.20	2.0
Elba	.....	.....	.....	0.10	.....
Ericson*†1	85	− 2	35.1	0.73	3.0
Ewing†	.....	.....	.....	0.98	.....
Fairmont*1	88	0	37.8	0.43	4.0
Fontanelle	85	0	35.8	0.54	3.7
Fort Robinson	78	−20	33.0	2.35	23.5
Franklin†	92	10	43.5	0.00	
Geneva†	92	0	39.1	0.25	2.5
Genoa†	89	0	36.2	0.92	1.3
Gering†	79	−13	34.0	0.63	6.3
Gibbon	87	− 1	39.1	0.07	.....
Glenwood*2	85	− 6	29.1	0.62	3.5
Gothenburg	87	− 4	41.9	0.20	1.7
Grand Island*1	91	2	39.2	0.07	0.7
Greeley Center*1	84	0	36.7	0 09	T.
Haigler*1	86	− 4	38 5	0.20	2.0
Hartington†	80	− 2	33.4	0.52	2.0
Harvard*1	90	0	36.6	0.17	1.8
Hayes Center	.....	.....	.....	0.20	2.0
Hay Springs†	77	−21	29.5	1.32	11.0
Hebron†	91	2	38.7	0.28	2.0
Hickman*1	90	2	39.4	0.53	1.0
Holdredge *a*5	.....	− 6	31.4	0.40	4.0
Holdredge *b*†1	85	3	36.8	0.25	2.5
Imperial *a*†	88	− 6	37.7	0.20	2.0
Indianola*5	90	− 5	39.7	0.20	2.0
Kearney*1	84	2	40.0	T.	T.
Kimball†	80	−17	33.5	1.10	11.0
Lexington†	85	− 7	35.0	0.30	3.0
Lincoln	90	1	38.0	0.50	.....
Lodge Pole†	84	−12	35.6	0.20	2.0
Lynch*†1	81	−11	33.6	1.55	4.8
McCook*1	89	− 5	39.8	0.10	1.0
Madison	.....	.....	.....	1.68	4.0
Madrid*†5	86	−10	36.0	0.20	2.0
Marquette*	91	2	.....	0.32	2.8
Mason City	.....	.....	.....	0.17	1.0
Minden*1	85	− 4	35.9	0.11	1.6
Mullen	.....	.....	.....	0.80	8.0
Nebraska City *a*†1	83	0	34.8	0.99	.....
Nebraska City *b*†1	88	4	38.7	1.12	1.1
Nemaha City*1	90	4	40.3	0.72	1.2
Norfolk†	82	0	35.5	0.90	3.5
North Loup*†1	88	− 3	36.6	0.35	3.0
North Platte	.....	.....	.....	.....	1.4
Oakdale†	87	− 3	33.2	1.50	2.8
Odell*5	88	2	40.1	0.21	2.1
Omaha*1	83	− 1	37.4	0.90	2.0
Omaha (W. B.)	.....	.....	.....	.....	4.6
O'Neill*1	84	− 6	33.5	1.75	9.5
Ough†	.....	.....	.....	T.	.....
Palmer *a*1	90	− 2	32.4	0.85	2.5
Palmer *b*	.....	.....	.....	0.34	1.0
Plattsmouth *a*†	.....	.....	.....	0.66	4.0
Plattsmouth *b*†1	90	2	40.4	0.76	5.0
Ravenna *a*	87	− 4	38.0	0.42	3.9
Ravenna *b*†1	84	2	40.2	0.15	1.5
Nebraska—Cont'd.	°	°	°	*Ins.*	*Ins.*
Red Cloud *a*	.....	.....	.....	0.04	T.
Red Cloud *b*†1	88	3	40.8	0.37	3.8
Republican*1	89	0	38.4	.....	.....
Rulo*1	90	4	43.3	0.75	3.5
Salem*1	88	6	40.7	0.32	2.0
Santee Agency†	84	− 4	34.5	1.75	4.3
Seward*5	85	2	37.6	0.21	0.5
Spencer (near)*1	85	− 4	35.4	1.16	.....
Springview	87	−15	32.5	1.26	7.8
Stanton*1	88	1	34.0	0.68	2.5
State Farm	92	1	39.5	0.34	1.2
Strang*1	88	− 2	39.9	0.01	0.1
Superior*5	85	− 1	36.3	T.	T.
Sutton	92	− 3	36.9	0.37	3.7
Syracuse	.....	.....	.....	0.67	2.0
Tecumseh†	83	2	37.4	1.25	2.5
Tekamah	87	− 2	35.8	1.40	6.0
Turlington†	88	0	37.6	1.05	4.1
Wakefield	.....	.....	.....	0.50	2.5
Weeping Water*1	86	− 2	34.2	1.13	5.0
Weston	.....	.....	.....	T.	
Wilber*1	92	8	41.8	0.10	1.0
Wilcox	.....	.....	.....	0.30	3.0
Wilsonville	90	−10	36.8	0.02	0.2
York*1	90	3	37.2	0.14	T.
Nevada.					
Austin	61	12	34.6	0.49	2.5
Battle Mountain*1	62	17	41.7	0.10	1.0
Belmont	59	6	32.2	1.72	7.0
Beowawe*5	75	20	39.2	0.05	0.5
Candelaria	72	15	44.6	0.05	3.5
Carlin*5	58	− 8	29.2	0.45	4.5
Carson City	69	14	40.6	0.32	0.4
Carson City (W. B.)	.....	.....	.....	.....	0.4
Clover Valley†	.....	.....	.....	1.23	4.0
Cortez†	.....	.....	.....	1.49	13.5
Cranes Ranch	.....	.....	.....	0.89	7.6
Downeyville	79	19	46.4	0.06	
Edgewood	56	0	32.4	1.49	14.5
Elko*5	60	10	32.6	0.15	1.5
Elko (near)	70	4	36.2	0.32	3.2
Ely	64	0	31.2	1.65	11.5
Empire Ranch†	67	10	34.4	0.10	1.5
Fenelon*5	62	8	31.3	1.15	6.5
Genoa	61	22	41.0	0.40	0.3
Golconda*1	72	26	37.7	0.75	7.5
Gold Hill	70	11	46.8	0.08	0.5
Halleck*1	65	5	28.7	0.29	1.9
Hawthorne *a*5	61	18	42.3	0.29	2.5
Hawthorne *b*	72	9	41.8	0.12	2.5
Hot Springs*1	69	25	39.7	0.05	0.5
Humboldt*5	70	13	36.5	0.30	5.0
Lewers Ranch	72	11	47.6	.....	
Lovelock*1	76	28	47.6	0.00	
Marlette Lake†	.....	.....	.....	3.49	24.3
Mill City*1	65	12	36.7	0.20	2.0
Osceola†	68	11	37.1	1.00	8.5
Palisade*1	54	8	31.3	0.60	6.0
Palmetto	67	6	37.2	1.20	4.0
Paradise Valley	80	7	39.6	0.48	2.0
Reno*5	66	18	41.4	0.00	
Reno State University	66	14	40.5	0.07	T.
Ruby Valley†	.....	.....	.....	0.65	3.8
St. Clair	68	14	40.7	0.06	0.5
Stofiel	52	−23	22.2	1.45	7.5
Sunnyside	77	3	40.2	2.13	3.5
Tecoma*5	72	20	37.2	0.15	0.5
Toano*1	60	9	32.2	0.00	
Tybo	66	9	37.4	1.89	4.0
Verdi*5	70	15	38.8	0.73	3.0
Wadsworth*5	63	20	40.0	.....	2.0
Wells*5	65	10	30.7	1.73	11.0
Winnemucca	.....	.....	.....	.....	1.9
Yerington	70	14	42.3	0.18	1.8
New Hampshire.					
Alstead*5	46	2	26.0	2.20	13.2
Belmont	.....	.....	.....	2.20	.....
Berlin Mills	48	−13	22.6	1.36	12.5
Bethlehem	48	− 5	22.8	1.11	11.0
Brookline*1	53	− 2	31.3	2.72	15.5
Concord	50	− 1	29.7	2.27	13.0
Dublin	51	3	26.4	1.73	9.0
Grafton	50	− 5	26.8	0.95	7.0
Hanover	43	− 5	26.2	1.99	11.5
Keene	47	− 6	28.0	1.89	12.8
Lakeport	.....	.....	.....	2.11	.....
Lancaster	48	− 4	25.1	0.82	5.0
Littleton	48	− 7	22.7	1.68	10.2
Nashua	52	10	31.8	2.71	14.2
Newton	51	7	31.2	2.44	9.5
North Conway	50	− 2	26.6	0.80	6.0
Peterboro	48	− 2	28.4	2.19	12.2
Plymouth	46	− 7	25.4	1.66	8.5
Sanbornton†	46	3	26.4	1.28	15.5
Stratford	52	− 7	24.8	1.18	5.0
Sugar Hill	47	0	23.4	.....	3.0
Weirs Bridge	.....	.....	.....	2.03	.....
New Hampshire—Cont'd.	°	°	°	*Ins.*	*Ins.*
West Milan	47	−15	21.7	1.47	9.0
Wolfboro	.....	.....	.....	1.88	.....
New Jersey.					
Allaire	65	16	38.0	.....	.....
Asbury Park	58	18	36.4	3.57	7.0
Barnegat	59	18	37.4	3.52	.....
Bayonne	61	18	37.4	3.09	2.8
Beach Haven	55	22	37.6	3.63	T.
Belvidere	60	13	34.5	2.14	5.0
Beverly†	64	19	38.2	3.79	7.8
Billingsport	58	20	36.6	2.47	3.0
Blairstown	63	16	37.2	.....	.....
Boonton	56	7	35.0	2.43	5.0
Bridgeton	66	23	41.4	4.00	1.0
Cape May	59	24	40.4	3.34	2.2
Cape May C. H.†	63	21	39.6	3.95	2.0
Charlotteburg	61	8	32.8	2.05	5.0
Chester	55	10	32.8	2.28	2.0
Colesville	56	8	31.8	.....	.....
Deckertown	51	10	32.8	1.77	6.0
Dover	64	12	34.3	2.11	5.6
Egg Harbor City	68e	21e	38.2e	2.90	2.5
Elizabeth†	61	15	36.0	2.86	3.0
Franklin Furnace	52	10	32.0	2.10	9.7
Freehold	69	18	37.6	4.23	1.5
Friesburg	.....	.....	.....	3.69	1.0
Gillette	65	14	33.0	2.42	6.5
Hammonton	.....	.....	.....	3.71	.....
Hanover	56	14	34.8	2.89	4.0
Hightstown	64	18	36.6	3.88	7.0
Imlaystown	54	19	35.6	4.66	3.5
Junction	.....	.....	.....	2.07	6.8
Lambertville	60	15	36.6	3.28	13.5
Millville	72	20	41.2	3.59	1.5
Moorestown	63	19	38.5	3.97	3.0
Newark *a*	60	16	36.4	2.73	2.5
Newark *b*†	61	18	36.7	2.75	2.2
New Brunswick *a*	62	16	37.2	3.26	3.7
New Brunswick *b*	61e	19	36.2	3.14	3.7
Newton	55	9	31.6	2.51	6.5
Ocean City	57	21	38.0	3.34	
Oceanic	64	21	39.1	3.96	6.5
Paterson	62	16	38.2	2.42	5.5
Perth Amboy	62	18	37.3	2.45	0.6
Plainfield	61	17	37.4	3.15	4.4
Pochunk Mountain	53	9	31.5	2.08	6.7
Rancocas*	56	19	.....	4.09	6.2
Readington*6	60	20	40.3	.....	.....
River Vale	54	14	35.0	2.64	2.0
Salem	69	20	40.3	4.08	T.
Somerville	61	14	37.6	3.19	3.5
South Orange	58	16	35.3	2.60	4.0
Toms River	67	18	37.5	4.46	3.8
Trenton	62	17	38.8	3.67	0.6
Vineland	68	20	40.0	4.08	4.0
Whiting	72	20	40.6	4.00	1.0
Woodbine	67	19	38.2	3.99	.....
New Mexico.					
Albert†	84	16	47.9	0.08	.....
Albuquerque†	75	21	45.2	0.07	0.5
Alma†	81	17	47.4	0.26	.....
Aztec†	75	16	41.9	0.10	2.0
Chama†	72	− 3	34.0	2.35	23.5
Deming*5	84	36	57.9	0.00	
East Las Vegas†	77	16	43.0	0.30	3.0
Eddy†	88	22	55.3	0.00	
Engle†	80	14	50.0	0.00	
Estalina Springs†	.....	.....	.....	0.13	0.6
Fort Bayard	76	18	46.4	0.08	0.2
Fort Stanton†	76	16	45.4	0.11	1.2
Fort Wingate	78	12	40.8	T.	T.
Fresnal	72	13	40.6	T.	T.
Galisteo†	79	21	43.9	0.00	
Gallinas Spring†	81	13	45.7	0.00	
Gila	84	26	51.0	0.21	
Lordsburg*5	77	26	49.7	T.	
Monero†	63	3	31.7	0.58	.....
Ocate†	77	8	39.8	T.	T.
Olio†	75	17	45.3	T.	
Raton†	80	12	43.0	T.	T.
Rincon†	87	21	52.6	T.	
Roswell†	85	21	55.2	0.02	
San Marcial†	80	21	48.8	0.00	
Santa Fe	.....	.....	.....	.....	4.8
Springer†	74	20	45.6	T.	
Taos	75	12	42.2	0.26	1.0
New York.					
Add son	56	5	29.7	0.88	3.3
Akron	.....	.....	.....	1.30	.....
Albany	.....	.....	.....	.....	6.3
Alfred Center	52h	7i	29.4i	1.30	5.0
Angelica†	52	4	26.5	2.86	15.0
Arcade	51	1	25.0	1.09	4.6
Arkwright	51	0	26.4	.....	.....
Atlanta	.....	.....	.....	1.65	.....
Baldwinsville	50	7	26.4	1.07	2.0
Bedford	59	14	34.9	2.33	6.9

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
New York—Cont'd.	°	°	°	*Ins.*	*Ins.*
Big Sandy *[10]	48	— 1	26.4	.....	.....
Binghamton †	59	— 4	27.4	1.58	8.5
Bolivar	.....	.....	.....	1.55	.....
Bovina Center	.....	.....	.....	1.44	.....
Brentwood	55	11	34.0	2.90	2.0
Brookfield	52	— 6	24.8	1.37	12.5
Brooklyn	55	17	36.9	3.37	4.5
Buffalo	.....	.....	.....	.....	8.8
Charlotte *[10]	65	8	36.8	.....	.....
Cherry Creek	.....	.....	.....	1.96	.....
Cooperstown †	46	0	25.2	1.93	11.8
Cortland	46	2	25.6	1.36	.....
De Kalb Junction	.....	.....	.....	1.16	.....
Demster	.....	.....	.....	1.22	.....
Deposit	.....	.....	.....	2.10	.....
Eden	57	2	28.9	2.85	12.0
Elmira †	55	7	31.4	1.37	.....
Fleming	52	6	27.0	0.60	0.5
Fort Niagara †	55	2	27.6	0.73	3.5
Friendship	55	5	28.0	1.01	4.3
Fulton	.....	.....	.....	1.12	.....
Glens Falls	45	— 2	27.3	2.05	13.2
Gloversville	49	1	25.6	3.21	16.2
Hamilton	49	— 6	24.2	2.28	19.7
Hess Road Station †	54	2	26.4	0.80	6.9
Honeymead Brook	56	11	30.7	1.78	8.1
Humphrey †	53	3	27.3	1.54	10.5
Hyndsville	53	2	27.1	.....	.....
Ithaca	54	2	28.0	1.26	7.7
Jamestown *[5]	52	4	28.5	.....	.....
Kings Station	.....	.....	.....	2.01	.....
Lebanon Springs	50	2	27.4	1.81	7.5
Le Roy	54	1	25.8	2.40	22.0
Lockport	51	1	25.2	1.56	8.0
Lowville	45	— 5	22.8	1.42	15.0
Lyons	57	8	29.4	0.90	4.0
Madison Barracks †	45	— 3	24.4	2.16	12.6
Malone	44	— 5	21.4	1.35	9.0
Manhattan Beach †	48	18	35.4	2.90	4.0
Massena	50	—10	23.5	.....	.....
Middletown	48	11	30.5	.....	.....
Minnewaska	54	4	27.4	1.60	.....
Mount Morris	59	3	28.0	.....	.....
Newark Valley	.....	.....	.....	1.07	.....
New Lisbon	46	— 8	24.2	1.41	16.8
New York	.....	.....	.....	.....	5.8
North Hammond *† [1]	50	— 8	21.9	1.41	10.5
Number Four †	42	—10	20.5	2.59	22.1
Ogdensburg	47	— 7	22.1	.....	17.5
Oneonta	54	2	29.6	.....	.....
Oswego	.....	.....	.....	.....	9.8
Oxford	50	— 7	27.0	2.13	14.4
Palermo *	47	— 2	23.8	0.88	6.5
Perry City	50	0	25.6	2.06	16.2
Phœnix	.....	.....	.....	1.01	.....
Pine City	.....	.....	.....	1.43	.....
Plattsburg Barracks	50	0	26.2	0.74	7.0
Port Jervis	54	8	31.1	1.69	5.0
Poughkeepsie	53	7	31.6	1.71	6.0
Rochester	.....	.....	.....	.....	9.5
Rome	48	4	25.0	0.89	.....
Romulus	54	8	29.4	1.00	5.2
Saranac Lake	48	— 8	19.6	1.37	13.0
Saratoga Springs	48	0	27.4	.....	.....
Setauket †	53	18	35.5	3.08	2.0
Sherwood	.....	.....	.....	1.21	.....
Skaneateles	.....	.....	.....	2.23	.....
South Canisteo	55	5	28.5	1.63	6.3
South Kortright †	49	— 5	28.1	1.69	.....
Stillwater	52	— 4	27.2	2.53	16.5
Turin	43	— 4	21.2	3.23	29.1
Varysburg	56	— 6	25.7	1.73	5.5
Wappingers Falls	51	7	31.0	1.28	6.0
Warwick	.....	.....	.....	1.59	.....
Watertown	50	— 6	24.4	1.57	.....
Waverly †	50	— 6	29.4	1.60	11.0
Wedgwood	53	3	27.0	1.00	7.5
West Chazy	.....	.....	.....	1.18	.....
West Point †	51	10	31.5	1.10	8.0
Willets Point	58	16	35.5	2.55	1.5
North Carolina.					
Asheville †	80	19	45.2	3.95	T.
Bailey *[5]	87*	28*	49.8*	3.57	0.8
Bakersville †	80	17	42.2	4.17	5.0
Blowing Rock †	55	10	34.2	.....	.....
Bryson City †	.....	.....	.....	6.45	T.
Chapel Hill †	85	24	48.4	5.12	1.0
Charlotte	.....	.....	.....	.....	T.
Currituck Inlet †	.....	.....	.....	5.18	.....
Experimental Farm	82	25	49.4	5.79	.....
Fair Bluff †	.....	.....	.....	5.06	.....
Falkland *[1]	88	28	48.6	5.79	1.0
Fayetteville †	84	27	51.2	6.07	T.
Greenville	.....	.....	.....	5.50	.....
Henderson	87	33	47.8	2.85	1.0
Highlands	74	11	40.8	3.53	1.0
Horse Cove †	77	17	44.8	7.38	0.3

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
North Carolina—Cont'd.	°	°	°	*Ins.*	*Ins.*
Lenoir *† [1]	78	24	46.1	4.52	0.5
Linville †	71	12	36.7	6.05	2.5
Littleton †	82	23	47.2	4.63	4.0
Louisburg †	85	24	48.1	4.85	2.2
Lumberton †	82	29	52.3	5.31	.....
Lynn *† [2]	85	.....	46.6	6.58	.....
Marion	85	22	49.2	5.00	.....
Mocksville †	84	24	49.6	4.97	0.5
Moncure †	83	24	48.8	5.51	1.2
Morganton *† [1]	80	26	48.4	2.43	.....
Mount Airy †	83	20	44.6	4.75	1.5
Mount Pleasant	84	23	48.8	5.82	.....
Murphy †	.....	.....	.....	7.10	.....
Newbern †	86	29	53.4	5.10	T.
Oak Ridge †	83	20	47.0	4.83	1.8
Pantego	.....	.....	.....	5.80	.....
Pittsboro	82	24	46.4	4.80	1.0
Raleigh *† [1]	82	25	50.5	5.45	1.0
Raleigh (W. B.) †	.....	.....	.....	.....	1.5
Rockingham †	88	25	52.8	6.77	.....
Roxboro †	83	22	47.4	4.57	2.0
Salisbury	79	29	50.5	5.40	T.
Saxon †	86	20	46.7	4.00	3.5
Selma	84	26	50.1	7.37	T.
Shelby †	80	24	44.6	6.12	.....
Skyuka	76	22	46.0	8.45	T.
Sloan †	84	26	52.4	6.18	T.
Soapstone Mount †	85	20	47.0	4.86	1.8
Southern Pines †	86	25	51.6	8.78	T.
Southport †	72	29	52.2	4.47	.....
Waynesville †	80	16	44.6	5.92	2.4
Weldon	84	26	48.0	5.19	.....
Willeyton	82	26	48.0	4.93	1.5
Wilmington	.....	.....	.....	.....	T.
North Dakota.					
Ashley †	65	—19	25.4	0.72	7.2
Berlin †	64	—20	25.0	T.	T.
Bismarck	.....	.....	.....	.....	1.3
Bottineau †	60	—24	19.2	0.15	1.5
Churchs Ferry	61	—27	21.5	0.26	1.5
Devils Lake	59	—23	22.0	0.45	1.8
Dickinson †	70	—17*	24.5*	1.06	1.5
Ellendale [1]	66	—16*	24.1	0.05	0.5
Forman †	64	—20	24.8	T.	T.
Fort Berthold †	74	—18	27.9	0.04	0.2
Fort Yates †	75	—15	31.2	0.78	.....
Gallatin †	60	—26	21.4	0.10	1.0
Grafton †	56	—23	20.4	0.05	T.
Jamestown †	60	—17	26.2	T.	T.
Kelso †	63	—21	16.8	0.00	.....
Lakota †	58	—24	20.0	0.10	0.3
Larimore †	59	—25	24.0	.....	.....
Lemert †	60	—28	24.8	0.25	0.2
McKinney	67	—18	23.2	T.	.....
Milton †	55	—31	16.4	0.10	1.0
Minto †	58	—24	21.4	0.04	0.4
Napoleon †	64	—19	25.4	0.10	1.0
New England City †	70	—15	28.8	0.05	0.5
Oakdale † *	65	—20	27.0	0.10	.....
Portal †	63	—22	21.4	0.00	.....
Power †	58	—19	25.3	T.	T.
St. John †	55	—26	19.2	0.10	1.0
Sheyenne	67	—23	22.9	0.45	1.0
Steele †	67	—20	25.2	0.10	0.5
University †	59	—20	23.2	0.05	0.5
Washburn	71	—22	16.8	0.35	2.0
White Earth *[1]	65	—13	26.1	0.16	1.6
Wild Rice † [2]	.....	.....	22.3	T.	T.
Williston	.....	.....	.....	.....	0.4
Willow City †	65	—29	20.6	T.	.....
Woodbridge †	51	—35	15.2	0.03	T.
Ohio.					
Akron	59	7	32.4	2.26	4.7
Annapolis	68	10	33.0	0.85	3.0
Arcanum	.....	.....	.....	1.26	1.8
Ashland	58	9	31.8	1.52	4.4
Athens	81	12	39.5	2.43	8.5
Atwater	.....	.....	.....	1.94	5.2
Auburn	60	1	29.5	1.54	2.0
Bangorville	67	9	32.8	1.53	6.4
Bellefontaine	74	14	35.8	1.38	4.3
Benton Ridge	73	1	34.0	0.43	3.1
Bethany	80	17	38.7	1.30	1.0
Big Prairie	62	10	32.1	3.08	11.5
Binola	62	7	33.7	1.52	4.5
Bissells	59	5	29.8	1.76	7.1
Bladensburg	70	7	34.4	2.23	2.8
Bloomingburg	81	17	38.1	1.14	1.0
Bloomington	.....	.....	.....	0.79	1.0
Bowling Green	66	1	32.1	0.87	3.5
Bucyrus	60	8	33.1	3.60	0.5
Caledonia †	.....	.....	.....	1.80	8.2
Cambridge	69	13	35.9	1.45	1.0
Camp Dennison	84	18	39.9	1.51	3.5
Canal Dover	63	6	33.5	1.63	2.8
Canton †	59	11	33.3	1.95	5.4
Cardington	74	10	35.0	1.78	5.5

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Ohio—Cont'd.	°	°	°	*Ins.*	*Ins.*
Carrollton	62	10	33.2	1.86	6.0
Cedarville	.....	.....	.....	1.55	0.5
Celina	79	12	37.8	0.70	1.5
Cherry Forks	82	12	40.1	2.90	11.0
Cincinnati	.....	.....	.....	.....	3.5
Circleville *a* †	.....	.....	.....	1.58	3.0
Circleville *b*	80	16	39.5	1.18	1.0
Clarksville	80	18	39.0	1.61	1.8
Cleveland	62	6	32.5	1.61	7.2
Cleveland (W. B.)	.....	.....	.....	.....	4.4
Clifton	76	14	36.3	1.69	1.5
Coalton	84	6	40.0	1.70	6.0
Colebrook	58	2	28.2	1.50	2.8
Columbus	.....	.....	.....	.....	2.2
Cynthiana	81	17	39.3	1.77	11.0
Dayton *a*	80*	15*	33.8*	1.78	2.5
Dayton *b* †	.....	.....	.....	1.35	0.8
Defiance	70	0	33.2	0.70	4.0
Demos	68	14	34.8	1.24	2.5
Dupont	76	4	31.8	0.65	5.0
Ellsworth	60	7	31.8	1.52	2.8
Elyria	65	3	30.5	2.27	4.6
Fairpoint Harbor *[10]	54	8	28.6	.....	.....
Fayetteville	80	18	38.8	2.12	5.2
Findlay	72	3	34.1	0.82	2.0
Fostoria	62	8	31.3	1.60	0.3
Frankfort	80	10	39.3	1.60	3.0
Garrettsville	61	7	31.3	1.79	4.8
Georgetown	86	18	41.7	1.40	5.8
Granville	75	13	35.9	2.28	2.6
Gratoit	74	15	36.7	1.46	1.3
Greenfield	78	20*	39.1	1.07	4.2
Greenhill	60	1	32.1	1.36	4.7
Greenville	78	13	36.0	1.21	2.5
Hackney	70	12	37.7	1.42	6.0
Hanging Rock	81	14	40.9	3.65	4.0
Harbor	60	3	29.5	1.75	7.0
Hebbardsville	82	16	40.7	2.11	0.7
Hedges	76	0	33.3	1.85	5.5
Hillhouse	60	3	29.3	2.02	10.5
Hillsboro	84	14	39.2	1.70	4.5
Hiram	59	3	29.5	1.59	2.8
Jacksonboro	80	16	37.3	0.50	.....
Kenton †	78	9	37.0	1.33	1.2
Kilbourne	73	10	34.8	1.13	5.1
Killbuck	68	11	34.5	1.99	6.0
Leipsic	72	8	32.7	0.61	1.5
Levering	70	3	31.1	1.80	3.0
Logan	80	13	39.5	1.32	1.1
Lordstown	61	7	30.9	1.61	3.4
Lowell	.....	.....	.....	0.90	8.0
McArthur	66	11	38.5	3.08	5.0
McConnellsville	75	13	37.9	1.89	6.0
Mansfield †	.....	.....	.....	1.92	9.3
Marietta *a* †	.....	.....	.....	2.97	8.0
Marietta *b*	73	13	39.8	3.10	7.5
Marion	73	10	34.7	0.42	1.7
Medina	61	7	32.3	1.47	4.5
Milfordton	78	12	33.4	2.04	2.3
Milligan	76	13	37.9	1.46	2.0
Montpelier	67	3	30.6	0.73	3.5
Napoleon	66	1	32.0	0.59	2.0
New Alexandria	65	13	34.9	4.12	14.5
New Berlin	60	10	32.7	1.66	3.5
New Bremen	78	11	35.4	1.17	4.0
New Comerstown	66	14	34.6	1.40	T.
New Holland	80	16	37.5	1.37	2.1
New Moscow	.....	.....	.....	1.97	2.7
New Paris	62	15	35.6	1.30	1.0
New Waterford	73	1	35.1	0.90	2.7
North Lewisburg	77	11	34.4	2.53	6.0
North Royalton	60	5	30.7	1.61	5.0
Northwood	77	10	35.3	2.00	9.0
Norwalk	63	4	31.1	1.60	2.5
Oberlin	65	4	31.9	0.26	2.6
Ohio State University	79	15	36.6	1.55	1.1
Orangeville	59	7	31.3	0.60	3.0
Ottawa	75	3	34.5	0.81	2.0
Pataskala	76	14	35.7	1.56	1.5
Peoli	65	9	33.9	2.02	4.5
Plattsburg	78	4	35.3	1.32	T.
Point Marblehead *[10]	57	8	29.6	.....	.....
Pomeroy	81	11	38.9	2.17	8.0
Portsmouth *a* †	.....	.....	.....	3.64	5.5
Portsmouth *b*	85	22	44.1	3.42	5.5
Richwood	.....	.....	.....	1.39	4.7
Ridgeville Corners	67	— 1	32.9	0.67	6.0
Ripley	82	16	40.5	2.39	4.8
Rittman	59	4	27.2	2.37	1.6
Rocky Ridge	64	6	32.3	0.63	3.1
Rosewood	75*	11*	31.0*	1.24	2.0
Sandusky	.....	.....	.....	.....	6.3
Sharon Center	60	9	35.0	1.30	0.5
Shenandoah	63	4	31.5	1.59	5.9
Sidney *a* †	.....	.....	.....	1.42	1.5
Sidney *b*	75	13	37.2	1.42	1.5
Springboro	.....	.....	.....	1.22	T.

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Ohio—Cont'd.	°	°	°	*Ins.*	*Ins.*
Steuben	65	6	33.4	1.59	7.1
Stoutsville	.....	.....	.....	1.74	3.0
Sylvania	69	— 7	30.0	1.29	6.0
Thurman	84	11	38.7	2.75	5.0
Tiffin †	64	8	33.1	1.40	6.2
Toledo	.....	.....	.....	.....	5.2
Upper Sandusky	70	9	33.9	1.33	5.0
Vanceburg	84	14	41.4	2.97	4.0
Van Wert	78	7	33.1	0.87	3.4
Vermilion	60	4	30.7	1.66	9.5
Vickery	62	2	31.3	1.03	4.6
Walnut	.....	.....	.....	1.11	4.3
Warren	61	7	32.7	2.59	7.0
Warsaw	69	8	34.9	1.03	1.5
Wauseon	67	— 2	31.2	1.62	8.9
Waverly	85	18	41.4	2.16	5.3
Waynesville	.....	.....	.....	1.76	1.5
Wellington	63	5	33.5	1.68	4.5
Westerville	73	16	36.6	1.35	1.4
Wheeler †	.....	.....	.....	0.17	1.5
Willoughby	.....	.....	.....	0.81	2.5
Wooster *a*	59	9	32.4	1.98	4.3
Wooster *b* †	.....	.....	.....	2.00	3.8
Youngstown	60	10	33.6	1.70	4.5
Zanesville †	.....	.....	.....	1.15	1.0
Oklahoma.					
Alva †	94	9	49.5	T.	T.
Anadarko †	94	14	53.4	T.	
Arapaho †	92	10	48.5	0.06	
Britton	.....	.....	.....	0.75	
Buffalo †	90	10	49.4	0.30	2.0
Burnett †	91	14	52.1	0.67	T.
Clifton †	92	12	50.4	0.90	
Fort Reno †	91	11	48.6	0.25	
Fort Sill	91	15	52.0	0.20	
Guthrie †	91	12	51.6	0.30	T.
Keokuk Falls †	93	12	50.0	0.54	
Mangum †	94	12	52.1	0.00	
Norman †	93	10	51.1	0.62	T.
Oklahoma †	.....	.....	.....	.....	T.
Ponca †	91	11	48.9	0.50	T.
Pond Creek †	92	8	46.8	0.05	0.5
Sac and Fox Agency †	92	11	50.6	1.10	
Winnview †	91	12	51.4	0.02	0.1
Oregon.					
Albany *a* †	69	34	46.0	4.44	T.
Arlington †	76	16	44.2	0.25	
Ashland *b*	70	20	44.7	1.52	4.3
Aurora [8]	72	25	48.5	4.30	
Aurora (near)	68	20	45.6	4.67	T.
Baker City	.....	.....	.....	.....	7.5
Bandon	61	24	46.3	12.10	
Beulah	68	8	34.3	0.18	1.0
Brownsville [8]	70	18	44.4	4.78	
Burns †	67	— 8	27.4	.....	.....
Canyon City †	74	9	42.4	.....	.....
Cascade Locks	64	23	44.9	7.35	
Comstock [8]	72	20	43.6	5.90	
Condon	70	7	38.0	2.20	2.0
Corvallis *a*	66	26	43.9	4.45	
Corvallis (near)	65	25	44.4	4.84	
Detroit †	65	15	40.0	6.47	18.0
East Portland	70	20	.....	1.46	.....
Eugene †	70	24	44.8	4.82	T.
Fife †	60	6	33.6	0.25	2.5
Forest Grove	67	19	43.6	2.99	T.
Gardiner	65	28	47.4	10.35	
Glenora	70	18	42.2	11.54	5.2
Grants Pass *a* †	72	18	45.2	3.22	
Happy Valley †	72	6	35.6	0.33	2.6
Heppner †	70	7[4]	41.8	1.00	2.2
Hood River (near)	62	13	40.4	3.68	9.5
Hubbard	67	26	44.0	5.30	
Jacksonville	68	21	44.6	2.25	0.2
Joseph †	65	5	33.4	2.20	18.5
Junction City [8]	56	22	38.9	2.96	
Lafayette [8]	68	28	45.6	5.56	
La Grande †	69	13	40.6	0.85	1.0
Lakeview †	58	0	31.0	2.00	19.0
Langlois	72	26	46.4	13.07	
Lone Rock	66	— 4	36.0	0.50	6.5
Lorella	65	6	36.5	1.62	5.8
McMinnville *a* †	65	23	44.5	4.91	T.
McMinnville *b* [8]	64	24	43.8	4.45	
Merlin [8]	70	20	42.0	3.60	
Monmouth [8]	70	32	48.3	4.61	
Mount Angel †	68	23	45.2	4.86	T.
Nehalem	.....	.....	.....	11.54	
Newport	67	22	45.8	9.70	
Pendleton	76	14	48.4	1.04	0.3
Portland	.....	.....	.....	.....	T.
Riddles [8]	68	18	42.9	2.47	0.5
Roseburg	.....	.....	.....	.....	T.
Salem *a* [8]	67	33	51.9	4.00	
Salem *b* †	68	22	44.3	4.56	
Sheridan [8]	65	24	45.9	5.44	
Silverton [8]	68	24	43.6	4.94	
Oregon—Cont'd.	°	°	°	*Ins.*	*Ins.*
Siskiyou [8]	67	23	43.7	3.30	33.0
Sparta	60	3	35.4	0.64	8.0
Springbrook	66	26	45.5	3.82	0.2
Springfield [8]	68	19	43.4	5.40	
The Dalles †	68	19	45.2	0.65	
Toledo	75	18	45.9	9.36	
Umatilla †	.....	.....	.....	0.25	T.
Vale	73	14	39.4	0.04	
West Fork [8]	72	25	45.9	5.90	1.0
Weston	73	11	42.6	1.04	3.3
Williams	68	19	44.6	3.48	1.5
Pennsylvania.					
Altoona	63	24	41.7	1.05	.....
Aqueduct	62	19	36.8	2.04	6.5
Beaver Dam †	.....	.....	.....	1.45	5.2
Bethlehem	.....	.....	.....	2.31	.....
Blooming Grove [1]	57	7	30.6	1.47	4.0
Brookville †	.....	.....	.....	2.33	8.0
Browers Lock	.....	.....	.....	3.42	.....
Carlisle *a*	62	18	36.1	3.67	8.0
Cassandra	55	12	33.3	3.22	22.0
Chambersburg †	62	19	36.8	2.03	0.5
Clarion †	.....	.....	.....	2.24	16.6
Coatesville	70	17	36.2	3.48	10.0
Confluence †	.....	.....	.....	4.03	11.0
Coopersburg	59	14	35.4	2.60	8.1
Davis Island Dam †	.....	.....	.....	1.48	.....
Doylestown	.....	.....	.....	2.77	.....
Drifton *	64	6	32.4	1.18	10.9
Dubois †	.....	.....	.....	1.95	18.0
Dyberry †	55	5	27.4	1.44	11.0
East Mauch Chunk	60	11	33.0	2.53	7.5
Easton	56	11	34.8	2.16	4.8
Edinboro [1]	62	1	27.8	.....	3.0
Ellwood Junction †	.....	.....	.....	0.99	.....
Emporium	55	5	30.8	1.60	10.6
Erie	.....	.....	.....	.....	6.5
Forks of Neshaminy [1]	60	22	39.0	3.51	.....
Frederick	.....	.....	.....	3.17	.....
Freeport †	.....	.....	.....	2.55	11.0
Gettysburg	61	18	36.2	1.83	6.0
Girardville	.....	.....	.....	2.48	11.5
Grampian	54	6	29.6	1.90	17.0
Greensboro †	.....	.....	.....	2.92	7.0
Greenville	53	6	29.6	.....	.....
Hamburg	59	13	35.0	2.05	7.5
Harrisburg	.....	.....	.....	.....	5.5
Hollidaysburg	63	13	35.4	2.33	12.2
Honesdale	56	8	30.4	1.51	6.5
Huntingdon †	62	10	37.2	1.42	9.0
Johnstown †	.....	.....	.....	2.49	10.5
Kennett Square	66	18	38.3	3.48	2.0
Lancaster	67	17	37.2	3.02	8.7
Lansdale	.....	.....	.....	3.24	.....
Lebanon	59[2]	16	34.1[3]	2.49	10.3
Le Roy †	51	5	26.6	1.55	8.7
Lewisburg	59	12	34.2	1.38	8.2
Lock Haven † [1]	58	10[5]	33.5	1.69	14.5
Lock No. 4 †	.....	.....	.....	1.82	1.0
Lycippus	67	14	33.4	2.53	10.8
Mahoning †	.....	.....	.....	1.51	9.6
Oil City †	.....	.....	.....	1.64	4.0
Ottsville	.....	.....	.....	3.30	.....
Parker †	.....	.....	.....	2.20	5.2
Philadelphia *a*	.....	.....	.....	3.31	.....
Philadelphia *b*	62	20	39.3	3.24	5.0
Philadelphia (W. B.)	.....	.....	.....	.....	3.8
Phœnixville	66	28	37.3	3.61	5.0
Pittsburg	.....	.....	.....	.....	7.6
Point Pleasant	.....	.....	.....	3.42	.....
Pottstown	67	17	37.7	3.57	11.0
Quakertown	62	14	34.0	2.70	7.5
Reading [5]	.....	.....	35.4	2.19	.....
Ridgway †	.....	.....	.....	1.52	7.5
Saegerstown	59	2	30.2	1.14	T.
Salem Corners	55	4	29.4	1.91	12.6
Saltsburg †	.....	.....	.....	2.30	14.5
Seisholtzville	.....	.....	.....	2.76	.....
Selinsgrove	58	11	34.0	2.92	9.0
Shinglehouse	64	1	28.2	1.58	6.8
Smethport	57	1	28.8	2.35	10.5
Smiths Corners	.....	.....	.....	3.02	.....
Somerset	65	5	32.6	3.34	20.5
South Bethlehem	55	15	34.8	.....	6.5
South Eaton	55	5	31.8	1.62	7.0
State College	57	11	32.4	1.03	10.3
Stoyestown †	.....	.....	.....	3.66	21.2
Towanda	54	3	29.4	1.28	8.5
Uniontown	68	18	37.2	3.86	11.0
Warren †	.....	.....	.....	1.42	3.0
Wellsboro [8] †	45	— 4	26.6	2.90	18.0
West Chester	63	15	37.0	3.44	3.8
West Newton †	.....	.....	.....	2.10	10.0
White Haven	57	8	30.4	1.79	11.0
Wilkesbarre †	59	10	34.0	2.94	11.5
Williamsport	56	10	32 6	1.16	6.8
York †	66	18	37.5	2.50	10.8
Rhode Island.	°	°	°	*Ins.*	*Ins.*
Block Island	.....	.....	.....	.....	7.5
Bristol	.....	.....	.....	3.83	5.0
Kingston	52	15	33.6	4.00	5.0
Lonsdale	.....	.....	.....	3.04	3.0
Narragansett Pier	.....	.....	.....	.....	4.7
Pawtucket	51	21	36.2	3.17	1.5
Providence *a*	50	18	36.2	3.31	2.0
Providence *c*	49	16	34.2	3.41	2.0
South Carolina.					
Anderson †	.....	.....	.....	6.62	
Blackville	86	30	55.3	5.91	
Blenheim [8]	.....	30	49.4	5.57	
Camden †	.....	.....	.....	6.36	
Central	88	25	52.4	4.43	
Cheraw *a* †	85	27	52.4	6.24	
Cheraw *b* †	.....	.....	.....	7.03	
Conway †	.....	.....	.....	4.68	
Darlington [1][4]	84	32	53.0	.....	
Edisto †	.....	.....	.....	4.80	
Effingham †	.....	.....	.....	5.02	
Georgetown †	80	31	53.9	5.75	
Gillisonville †	87	28	56.8	4.26	
Greenville †	84	25	48.6	6.11	
Greenwood †	84	30	51.7	6.06	
Hardeeville †	84	34	57.8	4.39	
Holland †	86	24	50.9	6.72	
Kingstree *b* †	.....	.....	.....	3.66	
Little Mountain	87	26	53.8	4.04	
Longshore †	82	27	50.8	5.78	
McCormick [8] † [1]	82	30	51.9	6.61	
Mount Carmel †	.....	.....	.....	7.02	
Pinopolis [1]	78	34	54.7	5.25	
Port Royal †	78	33	57.4	3.80	
Ridgeway †	78	27	52.4	6.40	
St. George †	84	32	57.2	4.29	
St. Matthews †	87	32	56.6	6.24	
St. Stephens †	.....	.....	.....	4.58	
Santuck †	85	24	49.4	4.07	
Shaws Fork [8]	90	31	56.4	7.25	
Society Hill †	83	28	53.0	6.64	
Spartanburg	88	28	51.5	4.02	
Statesburg †	85	30	54.2	6.01	
Trenton	82	31	54.9	7.64	
Trial †	85	32	56.5	5.86	
Watts [8]	86	28	52.0	7.39	
Yorkville	85	27	51.0	5.55	
South Dakota.					
Aberdeen †	72	—16	27.4	0.30	1.0
Alexandria †	80	— 8	30.0	1.05	0.5
Ashcroft †	82	—12	30.8	1.35	13.0
Bowdle * † [1]	60	—11	30.7	1.25	.....
Brookings †	69	—14	29.4	0.66	0.4
Buffalo Gap * [1]	80	— 8	31.5	0.95	6.5
Castlewood †	69	—14[6]	26.8[6]	0.14	0.9
Clark †	71	—13	29.6	0.47	0.5
Cross †	74	—13	28.8	2.81	27.8
De Smet	68	—15	24.4	0.85	0.1
Edgemont	.....	.....	.....	2.33	.....
Farmingdale	.....	.....	.....	0.37	3.2
Faulkton †	79	—15	28.6	0.67	T.
Flandreau †	78	—14	29.6	0.99	1.0
Forestburg †	77	— 8	30.8	0.70	0.5
Gary †	64	—15	27.6	0.00	
Greenwood	84	— 5	33.8	1.05	3.8
Highmore †	84	—12	28.6	0.74	4.1
Hotch City †	78	— 9	32.9	0.76	6.4
Howard †	73	—10	28.3	0.68	0.5
Huron	.....	.....	.....	.....	1.5
Ipswich * [1]	68	—16	28.3	0.08	
Kimball †	85	— 6	32.2	1.02	5.5
Leslie †	83	—29	33.8	0.08	T.
Millbank †	63	—13	29.8	.....	.....
Mitchell	79	— 5	32.6	0.95	0.2
Northville * [1]	60	—15	27.5	0.17	0.8
Oelrichs †	81	—18	31.0	2.21	49.0
Parker †	76	— 7	30.7	1.76	4.0
Parkston †	80	—10	29.8	1.05	4.5
Pierre	.....	.....	.....	.....	12.8
Plankinton †	82	— 5	31.9	1.26	3.0
Rapid City	.....	.....	.....	.....	11.9
Rochford	.....	.....	.....	2.86	24.1
Rosebud †	86	—11	32.7	0.92	12.0
Shiloh †	85[4]	—13[4]	32.0[4]	0.47	T.
Silver City	.....	.....	.....	4.10	29.8
Sioux Falls †	76	—10	28.9	1.23	2.8
Spearfish †	77	— 6	32.1	2.42	29.5
Tyndall †	82	— 4	35.7	0.83	1.0
Vermillion	76	— 5	35.2	1.00	4.0
Watertown	68	—15	27.1	0.10	1.0
Webster †	69	—19	28.0	0.13	0.6
Wentworth †	74	—12	29.1	0.64	0.5
Wessington Springs †	79	— 9	32.4	1.32	2.0
Tennessee.					
Andersonville * [1]	80	21	45.4	3.19	T.
Ashwood * † [1]	80	24	49.4	6.11	1.0
Bluff City †	.....	.....	.....	3.27	0.2
Bolivar †	84	30	50.4	8.17	

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
Tennessee—Cont'd.	°	°	°	*Ins.*	*Ins.*
Bristol†	74	19	42.6	4.00	2.0
Byrdstown †	85	21	48.4	5.27	2.8
Carthage†	.....	.....	.....	5.66	
Charleston†	.....	.....	.....	6.38	
Chattanooga	.....	.....	.....	.....	T.
Clarksville	83	22	47.7	4.17	T.
Clinton†	.....	.....	.....	4.92	
Columbia†	.....	.....	.....	6.58	T.
Covington δ†	86	28	52.6	.....	.....
Fairmount*§	78	22	47.0	.....	.....
Florence†	81	22	48.4	5.36	0.2
Franklin†	83	19	43.3	6.30	1.0
Greeneville†	81	30	46.2	5.64	2.8
Harriman†	85	17	46.0	4.82	T.
Hohenwald	67	20	44.6	6.86	0.5
Jacksboro*†	76	20	44.1	4.43	0.5
Jackson*†‡	84	24	50.9	6.46	
Johnsonville†	.....	.....	.....	5.40	T.
Kingston†	.....	.....	.....	4.50	
Knoxville	.....	.....	.....	.....	T.
Loudon†	.....	.....	.....	6.35	
Lynnville*‡	84	19	47.7	7.36	1.0
McMinnville†	79	14	46.2	5.37	T.
Mount Carmel	84	25	50.6	6.90	T.
Nashville	.....	.....	.....	.....	0.3
Newport*§	82	22	44.2	5.80	1.0
Nunnelly*‡	83	23	49.7	6.49	0.4
Palmetto†	.....	.....	.....	5.31	
Parksville*‡	84	23	48.4	4.48	
Riddleton†	84	20	48.8	3.81	T.
Rockwood†	.....	.....	.....	5.07	
Rogersville*‡	75	25	44.8	5.98	T.
Rugby*‡	80	22	43.9	6.14	1.5
Savannah*‡§	84	23	53.3	4.63	
Springdale*‡	84	22	46.2	4.90	2.0
Strawberry Plains†	.....	.....	.....	4.65	1.0
Trenton	82	22	49.0	6.36	T.
Tullahoma*†‡	81	18	46.6	8.50	T.
Waynesboro*‡	83	22	48.3	5.82	
Texas.					
Albany*†‡	75	24	55.4	0.62	
Alice†	91	36	66.1	1.30	
Amarillo	.....	.....	.....	.....	0.8
Arthur City†	.....	.....	.....	4.65	
Aurora*‡	92	24	57.1	1.20	.....
Austin δ*§	85	32	60.7	.....	
Boerne*†‡	83	29	58.9	2.09	
Brady†	85	22	56.9	0.13	
Brazoria†	85	36	63.7	2.03	
Brenham†	84	32	61.6	3.04	
Burnet*†‡	82	32	61.1	1.53	
Camp Eagle Pass†	92	32	65.2	2.55	
Coleman*§	.....	25	54.2	0.25	
College Station	83	20	50.0	2.22	
Colmesneil	.....	.....	.....	5.12	
Columbia†	85	32	58.4	0.40	
Corsicana α†	90	29	59.4	1.30	
Corsicana δ†	88	28	56.2	2.78	
Cuero†	85	35	64.6	1.15	
Dallas†	89	23	57.5	1.79	
Devine	86	30	66.8	0.95	
Durham*‡	.....	.....	.....	0.33	
Duval*‡	88	31	62.2	0.95	
El Paso	.....	.....	.....	.....	T.
Estelle†	88	22	57.1	1.68	
Flower Bluff†	79	35	64.6	0.85	
Forestburg†	88	22	52.6	2.12	
Fort Brown†	.....	39	.....	1.60	
Fort Clark	86	34	63.8	0.74	
Fort Hancock	89	9	52.6	0.00	
Fort McIntosh	93	34	68.4	0.60	
Fort Ringgold†	96	37	68.7	0.54	
Fort Stockton†	.....	.....	.....	0.20	
Fort Worth†	89	25	58.4	0.73	
Fredericksburg*†‡	84	30	58.1	1.85	
Golindo	.....	.....	.....	1.10	
Graham†	91	20	56.5	2.41	
Grape Vine†	87	26	56.6	1.47	
Hale Center†	83	21	54.0	T.	
Hallettsville†	86	34	62.8	1.10	
Happy	88	10	48.6	0.20	T.
Hartley†	62	— 4	31.2	0.02	0.2
Haskell†	.....	.....	.....	0.00	
Hewitt	.....	.....	.....	1.33	
Houston†	84	32	60.0	1.80	
Huntsville†	86	32	58.5	3.49	
Kent	.....	.....	.....	0.00	
Lampasas*‡	86	27	56.0	1.05	
Leakey†	85	35	62.8	1.50	
Llano*†§	90	30	60.2	1.10	
Longview†	87	29	59.1	3.92	
Luling†	86	29	61.7	2.80	
McGregor†	81	.....	.....	0.81	
Marshall†	84	29	55.8	3.60	
Menardville*†‡	86	28	56.7	0.00	
Midland†	90	20	58.5	0.00	
Mountain Spring†	91	21	56.6	2.90	
Mount Blanco†	87	15	51.5	2.38	
New Braunfels†	81	32	60.3	0.12	0.3
Ochiltree†	.....	.....	.....	2.30	
Orange†	80	34	61.2	1.13	
Panter †	.....	.....	.....	3.98	
Paris†	87	23	55.2	0.20	
Roby†	89	15	51.8	.....	
Rockport*‡	80	40	63.2	0.17	
Rock Springs†ζ	84	25	56.0	0.06	
Round Rock†	78	32	60.1	1.91	
San Antonio	85	32	63.1	1.41	
San Marcos α†	.....	.....	.....	1.53	
San Marcos δ†	86	18	57.8	0.00	
Sierra Blanca†	82	30	54.2	0.74	
Stafford†	87	31	62.0	6.00	
Sulphur Springs†	89	22	53.6	1.05	
Temple†	92	27	57.6	2.37	
Tyler†	83	24	57.6	1.11	
Victoria	.....	.....	.....	1.23	
Waco†	87	29	59.7	1.41	
Weatherford*	86	24	55.9	1.49	
Wichita Falls†	87	17	54.1	0.98	
Utah.	.....	.....	.....	0.70	1.0
Alpine City†	.....	.....	.....	3.19	8.0
Blue Creek*§	70	15	89.2	1.40	14.0
Brigham City	.....	.....	.....	1.08	3.0
Castle Gate†§	55	5	31.6	1.60	3.0
Cisco†	82	19	44.8	0.63	
Corinne*§	70	25	41.5	0.40	4.0
Deseret†	78	5§	35.9e	2.06	
Emery	.....	.....	.....	0.09	0.9
Fillmore†	78	— 2	36.0	T.	
Fort Duchesne†	70	— 9	27.9	0.36	2.0
Giles†	82	12	42.8	0.02	0.8
Grouse Creek*†‡	68	12	31.4	1.45	9.5
Grover †	67	4	33.9	2.07	6.0
Heber†	63	— 6	29.6	0.05	0.5
Huntsville†	.....	.....	.....	0.39	3.9
Kelton*§	45	21	34.6	3.50	15.5
Koosharem	65	— 9	29.4	0.35	3.5
Levan†§	.....	.....	34.4	1.70	17.0
Loa†	69	— 2	32.4	2.50	
Manti†	72	— 4	39.3	1.57	2.5
Millville†	.....	.....	.....	0.99	9.5
Moab†	85	19	47.0	2.00	20.0
Moroni†	65	5	33.7	1.70	7.0
Mount Pleasant*†‡	.....	.....	.....	1.60	2.5
Oakley	75	19	39.3	2.17	2.8
Ogden α*§	76	19	41.7	0.10	1.0
Ogden δ*†‡	80	22	44.6	1.93	17.5
Pahreah†	73	9	37.6	1.15	5.0
Parowan†	68	16	39.4	0.84	6.0
Promontory*§	87	18	47.8	.....	.....
Provo City†§	.....	.....	36.6	1.50	5.2
St. George†	.....	.....	.....	2.12	15.0
Salt Lake City	70	8	34.2	1.08	15.5
Santaquin	60	—15	28.2	1.40	3.5
Scipio	68	28	40.3	0.50	14.0
Snowville†	74	— 3	37.8	0.70	T.
Soldier Summit†	67	0	30.6	1.30	7.0
Terrace*§	.....	.....	.....	.....	5.5
Thistle†	49	4	27.0	1.95	17.0
Vernal†	47	4	28.8	0.77	9.0
Vermont.	50	3	26.4	0.90	9.0
Brattleboro	47	— 6	23.6	0.85	7.0
Burlington†	49	— 9	25.7	1.87	16.0
Cornwall	44	— 8	20.5	1.34	11.5
Enosburg Falls†	50	— 1	24.8	2.12	13.8
Hartland†	.....	.....	.....	.....	16.2
Irasburg†	49	— 5	25.8	1.52	15.5
Jacksonville	44	— 7	23.9	1.65	13.5
Northfield	47	— 9	21.5	1.62	11.5
Norwich*§	45	— 1	24.3	1.39	26.0
St. Johnsbury	44	— 5	23.6	2.00	.....
Simonsville	49	— 5	25.8	1.52	11.8
Strafford*†‡	44	— 7	23.9	1.65	13.5
Vernon*§	47	— 9	21.5	1.62	11.5
Wells	45	— 1	24.3	1.39	26.0
Woodstock	47	— 5	23.6	2.00	.....
Virginia.	.....	—10	25.2	1.78	11.8
Abingdon†	73	22	43.5	1.77	13.5
Alexandria	76	30	45.0	2.25	3.6
Ashland†	79	19	45.0	1.67	.....
Avon†	81	23	45.1	2.98	4.0
Bedford City†	81	15	41.2	2.06	6.0
Big Stone Gap†	72	30	44.4	3.19	8.0
Birdsnest*†‡	78	18	41.2	5.73	4.0
Blacksburg	.....	.....	.....	5.00	2.6
Buchanan†	.....	.....	.....	2.49	3.0
Callaville†	73	22	46.8	2.87	6.2
Cape Charles†	68	26	42.5	4.55	9.0
Cape Henry	.....	.....	.....	4.36	1.0
Charlottesville	74	22	45.5	.....	T.
Christiansburg†	.....	.....	.....	3.36	3.0
Clarksville	.....	.....	.....	2.86	7.0
Dale Enterprise†	74	18	39.7	3.95	3.0
Danville	.....	.....	.....	2.08	3.0
	.....	.....	.....	3.43	2.0
Virginia—Cont'd.	°	°	°	*Ins.*	*Ins.*
Fredericksburg†	70	26	42.9	3.51	1.0
Grahams Forge	80f	16f	40.5f	3.07	6.0
Hampton	72	26	45.4	4.23	5.0
Hot Springs	80	21	40.6	.....	.....
Irwin†	71	21	44.1	3.17	6.0
Lexington†	82	18	43.8	2.75	5.5
Lynchburg	.....	.....	.....	.....	7.7
Marion†	75e	20e	41.7e	2.70	3.0
Monterey†	68	14	36.6	2.68	10.0
Norfolk	.....	.....	.....	.....	1.5
Nottoway	84	19	46.2	3.99	5.0
Petersburg†	74	21	46.3	5.33	9.0
Radford†	.....	.....	.....	2.51	4.0
Richmond (near)†	77	30	46.6	4.60	6.5
Richmond δ†	.....	.....	.....	4.84	0.9
Rocky Mount†	85	23	48.0	4.03	6.5
Salem†	84	23	47.3	3.35	5.5
Saltville	78	21	43.5	.....	.....
Smithville†	80	23	43.1	2.71	2.8
Spottsville†	72	23	44.5	5.40	7.0
Stanardsville†	74	21	42.4	2.45	2.2
Staunton†	72	12	42.4	2.53	4.0
Stephens City†	71	21	40.8	3.35	3.2
Sunbeam†	74	23	46.3	5.26	1.0
Warsaw†	72	22	43.6	3.72	1.5
Whittles Depot†	74	22	45.4	4.24	8.5
Wytheville†	76	17	40.8	2.70	9.0
Washington.					
Aberdeen†	66	24	45.7	6.95	T.
Anacortes	.....	.....	.....	1.34	
Blaine†	63	18	42.3	2.81	T.
Bridgeport†	71	20	43.4	0.10	T.
Cascade Tunnel†	53	8	31.7	4.20	65.0
Centerville†	66	16	41.6	0.08	0.8
Colfax†	63	13	39.4	0.91	4.2
Connell	80	13	46.2	.....	.....
East Clallam	.....	.....	.....	.....	3.0
East Sound†	61	28	43.8	1.05	
Elbe	.....	.....	.....	3.96	16.0
Ellensburg†	69	9	41.0	0.02	0.2
Ellensburg (near)	66	10	40.8	0.10	1.0
Ferry†	62	26	42.6	5.05	T.
Fort Simcoe	74	19	46.2	0.00	3.0
Fort Spokane	63	14	40.3	0.01	T.
Grand Mound†	65	19	44.4	3.39	T.
Hunters†	56	5	33.1	0.79	6.9
Index†	64	34	46.0	8.40	4.5
Kennewick†	70	15	45.8	0.03	
Lakeside†	59	21	41.6	0.27	1.5
Lapush†	58	36	42.8	9.85	0.5
Madrone*†‡	68	23	44.5	4.46	T.
Monte Cristo	62	16	38.6	9.39	92.5
Moxee Valley†	73	12	42.0	0.02	T.
Neah Bay	.....	.....	.....	.....	2.0
Olga†	63	22	46.0	0.91	
Pine Hill*‡	65	16	42.3	1.84	1.2
Port Angeles	.....	.....	.....	.....	T.
Pullman†	62	11	38.2	0.69	1.2
Pysht	.....	.....	.....	.....	2.0
Rosalia†	63	8	37.8	0.61	4.7
Seattle	.....	.....	.....	.....	2.0
Silver Creek*‡	62	30	42.4	4.31	3.0
Snohomish†	66	23	43.7	4.29	5.0
South Bend	67	24	46.8	8.08	
Spokane	.....	.....	.....	.....	4.2
Stampede†	67	13	37.2	3.33	32.0
Stillaguamish†	64	20	41.8	3.96	
Sunnyside†	78	12	43.0	0.01	
Tacoma†	65	23	43.8	2.64	T.
Tatoosh Island	.....	.....	.....	.....	0.2
Union City†	63	22	42.8	6.98	2.2
Vashon†	64	14	39.2	3.51	0.2
Walla Walla	.....	.....	.....	.....	T.
Waterville†	63	4	36.9	0.50	5.0
Wenatchee Lake†	60	11	36.8	1.04	4.0
West Ferndale†	62	20	44.8	1.79	
West Virginia.	.....	.....	.....	.....	14.0
Beverly†	78	8	40.6	4.33	4.5
Bloomery†	64	18	36.0	2.24	6.0
Bluefield†	77	15	40.8	3.83	12.0
Buckhannon a†	.....	.....	.....	4.15	
Buckhannon δ†	76	6	40.4	.....	.....
Burlington†	70	3	37.4	3.95	10.3
Central Station	78e	4	37.8e	2.39	3.0
Charleston†	.....	.....	.....	3.87	4.0
Davis†	80	0	34.7	2.09	13.0
Elkhorn†	80	20	44.3	3.70	8.5
Ella†	66	14	36.2	3.89	6.8
Fairmont†	.....	.....	.....	4.15	8.0
Gladesville*‡	68	— 2	32.2	.....	.....
Glenville†	78	9	40.1	4.50	9.5
Grafton†	76	10	38.7	3.80	16.2
Green Sulphur	75	15	41.4	2.56	7.0
Harpers Ferry†	.....	.....	.....	1.43	1.0
Hewett†	85	14	45.3	3.13	.....
Hinton a†	.....	.....	.....	3.20	5.0
Hinton δ†	82	21	44.2	.....	.....

TABLE II.—*Meteorological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.) Maximum.	Minimum.	Mean.	Precipitation. Rain and melted snow.	Total depth of snow.
West Virginia—Cont'd.	°	°	°	*Ins.*	*Ins.*
Huntington†	83	17	42.3	0.16	0.5
Leachtown†	.....	.....	.....	2.31	7.0
Madison†	79	16	43.1	2.74	5.0
Marlinton†	85	4	37.5	1.46	10.5
Martinsburg†	69	19	39.5	2.25	0.5
Monarch*†[1]	78	24	43.0	2.40	6.0
Morgantown *a*†	.....	.....	.....	3.97	8.0
Morgantown *b*†	90	9	38.2	1.77	6.0
New Cumberland†	63	15	37 3	.....	.....
New Martinsville†	70	15	37.7	2.39	7.5
Nuttallburg†	73	9	40.1	1.25	.....
Parkersburg	.....	.....	.....	.....	9.7
Pennsboro*	80	2	38.2	.....	7.0
Philippi†	.....	.....	.....	3.90	10.0
Point Pleasant†	84	14	42.5	3.14	7.0
Powellton†	82	11	42.6	4.34	13.0
Raleigh†	58	9	34.2	2.85	10.8
Rowlesburg†	.....	.....	.....	4.26	7.3
Sandyville†	82	5	39.2	3.38	9.0
Tannery*[1]	67	12	37.4	.....	20.0
Weston *a*†	.....	.....	.....	4.75	18.0
Weston *b*[*1]	80	8	41.2	.....	.....
Wheeling *a*†	.....	.....	.....	2.32	6.1
Wheeling *b*†	66	20	39.3	1.89	7.0
Wiggins	81	20	42.6	.....	.....
Wisconsin.					
Amherst	64	— 6	25.6	0.22	1.0
Antigo†	53	—14	23.7	0.34	1.8
Apollonia*†[1]	65	—12	28.0	0.53	.....
Barron†	58	—14	22.4	0.48	1.5
Bayfield	52	—11	20.7	0.11	.....
Beaver Dam	62	0	30.0	0.62	4.8
Belleville	82	— 3	28 8	0.42	2.0
Beloit	80	2	31.4	0.35	4.2
Berlin	60	0	32.0	0.17	T.
Black River Falls†	64	— 6	28.4	0.35	3.5
Butternut†	54	—22	22.6	0.30	3.0
Chilton	67	— 5	29.0	0.44	2.6
Chippewa Falls†	.....	.....	.....	0.70	.....
City Point	64	— 7	27.4	0.31	T.
Columbus	62	— 2	27.8	0.90	6.0
Crandon†	53	—11	20.1	0.35	3.5
Delavan†	79	1	30.6	1.27	3.8
Depere†	63	— 5	26.1	0.47	3.2
Eau Claire	68	— 6	29.4	0.22	1.0
Florence†	56	—18	19.6	0.30	2.9
Fond du Lac†	66	— 4	27.7	0.49	1.5
Grantsburg†	56	—10	28.8	0.40	1.5
Green Bay	.....	.....	.....	.....	2.3
Hartford	.....	.....	.....	0.91	4.0
Harvey†	78	— 2	30.2	1.08	4.2
Hayward†	57	—16	22.6	0.54	2.4
Hillsboro	67	— 3	27.9	0.70	2.0
Wisconsin—Cont'd.	°	°	°	*Ins.*	*Ins.*
Janesville†	77	4	30.6	1.02	4.5
Koepenick*†[1]	60	—20	20.2	0.35	3.0
La Crosse	.....	.....	.....	.....	2.0
Lancaster†[4]	82	— 2	31.0	0.72	4.2
Lincoln†[2]	.....	.....	29.2	0.14	1.4
Madison†	72	0	30.0	0.27	.....
Manitowoc†	65	— 4	27.9	0.42	2.2
Meadow Valley†	64	— 6	29.1	0.35	2.5
Medford†	61	—18	23.4	0.34	1.9
Milwaukee	.....	.....	.....	.....	3.6
Neillsville†	60	— 8	25.5	0.85	2.0
New Holstein†	64	— 5	28.8	0.46	1.0
Oconomowoc†	67	0	31.1	0.50	0.2
Oconto	65	— 7	26.4	0.20	2.0
Osceola†	58	—10	26.2	0.55	T.
Pepin	64	— 6	27.9	0.35	1.0
Pine River†	66	— 6	28.8	0.06	1.1
Portage†	.....	.....	.....	0.44	1.0
Port Washington	73	3	30.2	0.40	2.5
Prairie du Chien	89	— 7	31.2	0.61	1.6
Racine*[10]	68	4	29.4	.....	.....
Rhinelander†	58	—18	23.4	T.	T.
Royalton	66	— 8	26.6	0.34	2.0
Sharon†	80	0	29.6	1.34	6.0
Shawano	63	— 8	27.2	0.61	2.2
Sheboygan*[9]	51	8	31.7	.....	.....
Spooner†	55	—12	24.3	0.12	1.0
Stevens Point†	65	—10	23.1	0.48	2.2
Sturgeon Bay Canal*[9]	55	—10	24.6	.....	.....
Valley Junction†	66	— 7	28.2	0.38	1.4
Viroqua	69	— 7	29.4	0.34	2.0
Watertown†	69	— 1	29.6	0.77	3.5
Waukesha†	66	0	30.0	0.53	2.0
West Bend	67	— 2	26.7	0.72	7.0
Westfield†	64	— 4	28.0	0.50	1.5
Whitehall†	63	1	27.8	0.20	2.0
Wyoming.					
Big Horn Ranch†	64	—18	25.8	0.80	9.5
Cheyenne	.....	.....	.....	.....	12.6
Fort Laramie†	79	—24	31.1	1.54	18.5
Fort Washakie	61	—13	29.6	7.90	79.0
Fort Yellowstone†	.....	—17	.....	2.79	25.1
La Barge†[1]	66	—22*	22.3	0.43	3.2
Lander	70	— 9	31.4	1.32	13.7
Lander (W. B.)	.....	.....	.....	.....	11.7
Laramie	64	— 6	27.5	0.43	9.0
Lusk	73	—25	28.9	2.36	18.5
Saratoga†	64	—19	27.4	3.30	33.0
Sheridan	75	—18	29.4	0.97	8.5
Sundance	68	—14	27.0	2.50	25.0
Mexico.					
Ciudad P. Diaz	91	36	66.0	2.15	
Leon de Aldamas	86	34	64.4	0.38	
Mexico—Cont'd.	°	°	°	*Ins.*	*Ins.*
Mexico	84	40	60.9	2.53	
Puebla	83	45	64.8	T.	
Topolobampo*[1]	90	62	67.4	0.00	
Vera Cruz[1]	85	62	75.0	0.07	
New Brunswick.					
St. John	41	5	27.5	2.97	6.5
West Indies.					
Grand Turk Island	.....	.....	.....	0.68	

EXPLANATION OF SIGNS.

* Extremes of temperature from observed readings of dry thermometer.

† Weather Bureau instruments.

‡ Record furnished by the Arrowhead Reservoir Company, in the San Bernardino Mountains, San Bernardino County, Cal., at elevations varying from 4,900 to 6,900 feet.

A numeral following the name of a station indicates the hours of observation from which the mean temperature was obtained, thus:

[1] Mean of 7 a. m. + 2 p. m. + 9 p. m. + 9 p. m. ÷ 4.
[2] Mean of 8 a. m. + 8 p. m. ÷ 2.
[3] Mean of 7 a. m. + 7 p. m. ÷ 2.
[4] Mean of 6 a. m. + 6 p. m. ÷ 2.
[5] Mean of 7 a. m. + 2 p. m. ÷ 2.
[6] Mean of readings at various hours reduced to true daily mean by special tables.
[7] Mean from hourly readings of thermograph.
[8] Mean of 7 a. m. + 2 p. m. + 9 p. m. ÷ 3.
[9] Mean of sunrise and noon.
[10] Mean of sunrise, noon, sunset, and midnight.

The absence of a numeral indicates that the mean temperature has been obtained from daily readings of the maximum and minimum thermometers.

An italic letter following the name of a station, as "Livingston *a*," "Livingston *b*," indicates that two or more observers, as the case may be, are reporting from the same station. A small roman letter following the name of a station, or in figure columns, indicates the number of days missing from the record; for instance, "a" denotes 14 days missing.

No note is made of breaks in the continuity of temperature records when the same do not exceed two days. All known breaks, of whatever duration, in the precipitation record receive appropriate notice.

Note: The following changes have been made in the names of stations: Indiana, Hawpatch, changed to Topeka; Montana, Mingusville, changed to Wibaux; West Virginia, Lake, changed to Hewett.

TABLE III.—*Data from Canadian stations for the month of March*, 1895.

Stations.	Pressure. Mean not reduced.	Mean reduced.	Departure from normal.	Temperature. Mean.	Departure from normal.	Precipitation. Total.	Departure from normal.	Prevailing direction of wind.
	Inches.	*Inches.*	*Inches.*	°	°	*Inches*	*Inches.*	
St. Johns, N. F	29.54	29.69	— .14	28.8	+ 1.0	8.02	.....	w.
Sydney, C. B. I	29.70	29.76	— .11	25.6	— 0.4	3.88	— 1.37	nw.
Anticosti, Gulf of St. L.	29.64	29.67	— .13	20.6	+ 1.8	2.35	.....	w.
Sable Island, N. S	29.78	.....	.....	32.6	.....	6.44	.....	w.
Halifax, N. S	29.68	29.92	— .07	29.1	+ 0.6	5.92	+ 0.06	n.
Grand Manan, N. B	29.80	29.85	.....	29.5	.....	4.18	+ 0.03	w.
Yarmouth, N. S	29.78	29.86	— .02	31.0	0.0	5.24	+ 0.38	n.
St. Andrews, N. B	29.76	29.81	.....	27.4	.....	3.04	— 1.35	nw.
Charlottetown, P. E. I.	29.74	29.78	.....	24.6	.....	2.09	— 1.32	w.
Chatham, N. B.	29.78	29.80	— .10	20.4	— 0.6	1.16	— 3.08	nw.
Father Point, Que	29.80	29.83	— .07	20.2	+ 0.7	0.36	— 2.10	sw.
Quebec, Que	29.56	29.91	— .04	18.8	— 1.2	1.05	— 2.86	w.
Montreal, Que	29.72	29.94	— .02	21.7	— 0.3	1.01	— 2.68	w.
Rockliffe, Ont	29.40	29.95	— .06	13.6	— 2.4	0.66	— 1.63	nw.
Kingston, Ont	29.68	30.02	+ .02	21.0	— 3.0	1.24	— 1.82	sw.
Toronto, Ont	29.64	30.05	+ .02	23.7	— 1.8	0.89	— 1.71	w.
White River, Ont	28.60	30.06	.....	6.6	— 6.4	0.83	— 0.32	w.

TABLE III.—*Data from Canadian stations*—Continued.

Stations.	Pressure. Mean not reduced.	Mean reduced.	Departure from normal.	Temperature. Mean.	Departure from normal.	Precipitation. Total.	Departure from normal.	Prevailing direction of wind.
	Inches.	*Inches.*	*Inches.*	°	°	*Inches*	*Inches.*	
Port Stanley, Ont	29.38	30.06	+ .03	23.8	.....	2.00	— 0.86	w.
Saugeen, Ont	29.29	30.05	+ .03	19.3	— 3.7	2.10	— 0.45	sw.
Parry Sound, Ont	29.28	30.02	.00	15.7	— 2.8	2.38	— 0.24	w.
Port Arthur, Ont	29.24	29.99	— .09	14.5	+ 0.5	0.96	— 0.21	w.
Winnipeg, Man	29.14	30.03	— .09	11.6	+ 1.1	0.55	— 0.47	nw.
Minnedosa, Man	28.97	29.99	— .10	12.2	+ 2.2	0.10	— 0.56	w.
Qu'Appelle, Assin	27.63	30.02	— .05	14.2	— 0.8	0.11	— 0.53	nw.
Medicine Hat, Assin	27.59	29.97	— .06	27.6	+ 0.1	1.19	+ 0.58	w.
Swift Current, Assin	27.32	30.02	— .08	21.6	— 1.4	0.20	— 0.62	w.
Calgary, Alberta	26.28	29.94	— .10	25.2	— 1.8	0.70	— 0.06	w.
Prince Albert, Sask	28.38	29.99	.....	14.8	.....	0.26	.....	nw.
Edmonton, Alberta	27.53	29.96	— .02	25.6	— 0.4	0.30	— 0.35	se.
Battleford, Sask	28.15	29.98	.....	16.0	.....	0.08	.....	nw.
Spences Bridge, B. C	29.07	29.91	.....	41.3	.....	0.54	.....	w.
Hamilton, Bermuda	29.96	30.12	+ .04	62.0	.....	5.26	.....	sw.
Esquimalt, B. C	29.92	29.95	.....	42.0	.....	1.38	.....	sw.

TABLE IV.—*Mean temperature for each hour of seventy-fifth meridian time, March, 1895.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex.	51.0	50.3	48.9	47.7	47.2	46.2	45.7	45.3	46.6	49.9	53.6	56.7	59.7	61.8	63.9	64.8	66.0	66.0	64.6	61.7	57.9	55.5	53.3	51.9	54.8
Albany, N. Y.	28.1	27.7	27.6	27.0	26.2	25.6	25.8	27.0	28.0	29.1	30.8	31.7	32.6	33.7	33.6	33.6	33.2	32.2	31.3	30.3	29.8	29.3	28.3	28.1	29.6
Alpena, Mich.	20.0	19.4	18.8	18.6	18.6	18.3	18.2	19.3	20.9	22.6	24.2	25.3	26.0	26.8	27.6	28.0	27.5	26.5	25.0	23.9	23.0	22.2	21.3	20.6	22.6
Amarillo, Tex.	40.2	40.1	38.8	37.7	36.7	36.0	35.1	33.9	35.9	40.6	44.9	49.3	52.2	54.4	55.8	56.9	57.6	57.4	56.1	52.1	47.7	45.4	43.4	41.5	45.4
Atlanta, Ga.	49.1	48.5	47.6	47.1	46.3	45.6	45.1	45.0	45.9	47.5	50.4	52.7	54.9	56.3	57.3	57.7	57.9	57.5	56.0	54.0	52.9	51.5	50.7	49.9	51.1
Augusta, Ga.	50.9	49.9	48.8	48.1	47.7	47.5	47.5	49.4	51.6	53.6	56.0	57.9	59.5	61.0	62.4	63.0	62.4	61.6	59.8	58.4	55.9	54.6	53.2	51.8	54.7
Baker City, Oreg.	34.8	33.8	32.9	32.5	31.8	31.3	31.0	30.4	29.8	30.4	33.4	37.1	40.6	42.5	44.2	44.9	45.3	45.4	45.2	44.1	41.6	39.1	37.5	36.3	37.3
Baltimore, Md.	38.6	38.1	37.5	36.7	36.4	35.7	35.3	36.2	37.4	39.0	40.5	42.2	43.1	44.2	44.9	45.5	45.4	44.6	43.0	41.9	41.0	40.1	39.4	38.8	40.2
Bismarck, N Dak.	20.6	19.6	18.7	17.9	17.3	16.9	16.6	16.3	17.8	21.4	25.7	29.4	32.1	34.9	36.7	38.2	39.0	38.0	36.3	32.7	29.2	26.6	24.8	23.4	26.3
Boston, Mass.	31.5	31.1	30.8	30.6	30.4	30.1	30.5	31.9	33.0	34.3	35.7	37.1	37.7	38.5	38.8	38.4	37.5	36.6	35.6	34.7	34.1	33.4	32.6	31.8	34.0
Buffalo, N Y.	25.9	25.3	25.1	24.5	23.7	23.6	23.4	24.0	25.6	26.8	28.4	29.6	30.6	31.3	31.9	31.8	30.8	29.4	28.5	28.0	27.4	26.8	26.5	25.9	27.3
Charleston, S. C.	54.3	53.6	52.8	52.1	51.7	51.1	50.8	51.9	53.7	55.9	57.7	59.3	59.8	60.4	60.7	60.4	59.7	58.5	57.2	56.0	55.6	55.6	55.2	54.8	55.8
Charlotte, N. C.	46.3	45.4	44.7	44.1	43.4	42.9	42.9	43.8	45.8	48.1	49.9	51.7	53.4	54.1	55.1	55.7	55.8	54.8	53.3	51.6	50.4	49.5	48.1	47.2	49.1
Cheyenne, Wyo.	26.9	26.5	26.1	26.0	25.4	24.5	23.8	23.2	24.9	28.7	32.0	34.2	35.5	36.5	38.2	39.0	39.0	38.6	37.8	35.2	31.5	29.9	28.1	27.9	30.8
Chicago, Ill.	31.0	30.4	30.0	29.6	29.3	28.9	28.8	28.5	29.3	30.3	31.1	32.2	33.0	33.9	35.0	35.7	35.8	35.8	35.6	34.7	34.1	33.4	32.2	31.5	32.1
Cincinnati, Ohio.	39.4	38.7	38.1	37.5	36.8	36.5	36.1	35.8	36.4	38.0	39.7	41.6	43.0	44.4	45.5	46.1	46.3	46.0	45.1	43.6	42.6	41.4	40.5	40.0	40.8
Cleveland, Ohio	28.8	28.2	27.5	27.2	31.3	26.9	26.6	26.3	27.0	27.6	28.7	30.0	32.0	32.6	33.4	33.8	33.8	33.2	32.5	31.7	30.8	30.4	29.6	28.9	29.9
Columbus, Ohio	34.6	33.9	32.9	32.4	31.3	30.7	30.8	31.8	32.2	34.7	36.4	38.1	39.7	41.3	42.3	42.5	42.5	41.6	40.1	39.0	38.0	37.1	36.3	35.5	36.5
Denver, Colo.	34.7	35.5	32.7	32.2	30.7	30.5	29.5	28.7	28.6	31.4	33.8	35.6	38.9	41.2	43.4	44.6	45.3	46.0	46.5	44.7	42.4	40.3	38.2	36.2	37.6
Des Moines, Iowa	33.7	32.7	32.2	31.4	30.7	30.0	29.3	29.1	30.7	33.8	35.6	38.9	41.2	43.0	44.2	44.8	44.8	44.2	42.9	40.7	38.8	37.1	36.0	34.7	36.7
Detroit, Mich.	25.7	25.2	24.9	24.4	24.0	23.7	23.8	24.8	26.2	27.7	29.3	30.7	31.9	32.6	32.6	32.8	32.7	32.1	31.1	30.1	29.1	28.2	26.8	26.0	28.2
Dodge City, Kans.	38.3	37.6	36.3	35.5	34.5	33.7	33.2	32.4	34.4	37.6	38.6	42.4	45.0	50.3	51.8	52.9	53.4	52.9	51.2	47.3	44.5	42.9	40.8	39.5	42.4
Duluth, Minn.	21.5	20.7	19.9	19.5	18.8	18.3	17.7	17.1	19.6	21.6	23.9	25.7	27.2	28.3	28.3	28.8	28.9	28.5	27.8	26.8	25.6	24.3	23.1	22.5	23.1
Eastport, Me.	27.5	26.9	26.3	26.0	25.6	25.0	25.0	25.5	26.4	27.7	28.8	30.0	30.7	31.4	32.0	31.9	31.5	31.0	30.3	30.0	29.6	29.1	28.5	28.0	28.5
El Paso, Tex.	53.4	51.5	50.3	49.4	48.1	46.5	45.4	45.0	44.9	48.5	53.7	58.7	61.7	64.3	66.4	67.8	68.7	68.9	68.6	65.9	62.8	59.5	57.1	54.9	56.7
Fort Smith, Ark.	48.7	47.7	46.6	46.2	45.2	44.7	44.1	44.3	45.8	48.3	51.4	53.5	55.9	57.6	59.0	59.8	60.4	59.4	57.6	56.1	54.0	52.9	51.5	49.8	51.7
Galveston, Tex.	58.5	58.4	58.4	58.3	58.3	58.3	57.8	57.7	58.2	58.6	59.0	60.8	61.7	62.0	62.2	62.1	61?9	61.4	60.8	60.1	59.6	59.4	59.2	59.0	59.7
Grand Haven, Mich.	25.7	25.3	24.9	24.9	24.5	24.4	24.1	24.6	25.2	26.7	28.4	29.8	30.9	31.7	31.6	32.1	31.9	31.2	30.4	29.1	28.3	27.5	26.9	26.1	27.8
Havre, Mont.	25.5	25.0	25.2	24.7	24.3	23.8	23.6	23.5	24.0	26.0	28.1	29.8	30.6	31.7	32.1	32.4	32.0	31.5	31.0	30.3	30.0	29.6	29.1	28.5	28.0	30.2
Helena, Mont.	29.8	28.9	28.5	27.9	27.6	27.0	26.2	25.3	25.4	26.2	28.1	30.6	33.1	34.9	36.7	37.9	38.0	37.9	37.4	36.6	34.5	32.5	29.8	28.1	27.0	31.4
Huron, S. Dak.	26.2	25.3	24.4	23.5	23.2	21.2	20.7	20.6	23.0	27.4	31.2	34.3	36.8	38.7	40.3	41.7	42.0	41.5	40.1	37.1	34.1	32.2	30.4	28.7	31.0
Independence, Cal.	46.4	46.0	45.4	44.3	43.2	42.3	41.4	40.4	41.6	44.0	47.5	51.1	54.6	57.0	59.1	59.5	59.5	58.7	57.1	53.2	50.5	48.9	47.6	46.9	49.2
Indianapolis, Ind.	37.3	36.1	35.4	34.8	34.1	33.6	33.1	33.4	35.3	37.7	39.9	42.5	44.1	45.0	45.7	46.1	45.6	45.0	43.5	42.0	40.8	39.9	38.8	38.0	39.5
Jacksonville, Fla.	58.6	58.4	57.9	57.2	56.8	56.4	55.9	56.9	59.2	61.7	64.1	66.0	67.8	68.8	69.4	69.2	68.0	66.3	64.2	62.8	61.5	60.7	60.2	59.5	62.0
Kansas City, Mo.	39.6	39.3	38.6	37.8	37.2	36.5	35.8	35.6	36.1	38.4	41.1	43.5	45.5	47.1	48.2	49.4	49.3	49.2	47.9	46.0	44.5	43.3	41.6	40.7	42.2
Key West, Fla.	70.9	70.8	70.7	70.6	70.5	70.6	70.7	71.7	72.7	73.5	74.2	74.9	75.0	74.9	74.5	74.1	73.8	73.0	72.0	71.7	71.5	71.3	71.1	71.1	72.3
Knoxville, Tenn.	44.9	43.9	43.1	42.3	41.5	41.1	40.9	41.7	42.9	45.2	47.6	49.6	51.4	52.8	53.8	54.6	54.7	54.2	52.0	50.7	49.2	48.2	47.0	45.7	47.5
Lander, Wyo.	27.1	25.7	24.2	23.4	22.7	21.5	20.8	20.4	20.8	23.9	28.4	32.5	35.3	37.4	39.6	41.0	41.3	40.6	39.8	37.0	33.2	32.0	30.4	28.2	30.3
Little Rock, Ark.	49.6	48.9	47.8	47.5	46.5	45.9	45.2	45.0	46.2	48.4	50.3	52.8	55.1	56.7	59.7	59.2	59.7	59.3	58.2	56.5	54.8	53.5	52.1	51.1	52.0
Louisville, Ky.	42.0	41.0	40.7	40.1	39.6	38.9	38.3	38.4	39.6	41.6	43.8	46.1	48.3	49.7	50.0	50.5	50.3	49.3	48.2	47.0	45.9	44.7	43.5	42.5	44.2
Lynchburg, Va.	42.1	41.4	40.9	40.3	40.1	39.6	39.3	40.9	42.9	45.5	47.5	49.5	51.0	51.7	52.5	52.9	52.1	51.0	49.3	47.6	46.0	44.7	43.4	42.6	45.6
Marquette, Mich.	19.5	19.1	18.6	18.1	17.6	17.1	16.8	17.0	18.7	20.5	22.9	24.4	24.7	25.0	25.5	25.5	25.1	24.5	23.3	22.2	21.3	20.5	20.3	20.1	21.2
Memphis, Tenn.	50.4	49.6	48.4	47.5	46.8	46.0	45.7	45.6	46.9	49.0	51.2	54.1	55.7	57.3	58.3	59.1	59.1	58.3	57.4	55.8	54.5	53.5	52.3	51.4	52.2
Milwaukee, Wis.	29.2	28.8	28.3	27.6	26.8	26.2	25.7	25.7	27.1	28.9	30.5	31.8	33.1	34.2	34.7	35.0	34.7	34.0	32.6	31.8	30.9	30.1	29.7	29.1	30.3
Montgomery, Ala.	54.1	53.1	52.2	51.5	50.7	49.8	49.8	50.1	51.9	54.3	57.5	59.6	61.8	63.1	64.2	64.8	64.8	64.1	62.3	60.7	59.5	58.3	56.6	55.3	57.1
Moorhead, Minn.	20.0	19.3	18.5	17.8	17.6	16.7	15.7	15.4	17.0	20.5	24.3	27.1	29.4	30.9	31.9	32.9	33.0	32.6	31.4	29.0	26.6	24.7	23.7	22.3	24.1
Nantucket, Mass.	33.6	33.6	33.5	33.4	33.5	33.0	33.4	34.0	34.7	35.3	36.0	36.4	37.0	37.1	37.2	36.9	36.4	35.9	35.3	35.2	34.9	34.9	34.7	34.3	35.0
Nashville, Tenn.	46.7	45.8	44.5	44.2	43.5	43.2	42.5	42.9	44.5	46.2	48.5	50.2	51.8	53.5	54.3	54.7	54.7	54.1	52.8	51.5	50.2	49.2	48.3	47.5	48.5
New Haven, Conn.	32.1	31.5	31.1	30.7	30.2	30.1	30.6	31.8	33.0	34.5	36.2	37.4	38.3	38.6	38.8	38.8	38.2	37.9	36.9	36.4	35.5	33.7	32.7	32.3	34.2
New Orleans, La.	58.9	58.5	58.1	57.9	57.6	57.2	56.6	56.8	58.1	60.1	62.4	64.3	66.1	67.2	68.1	68.3	68.0	67.0	65.3	63.4	62.0	60.9	60.1	59.3	61.7
New York, N. Y.	34.7	34.2	33.6	33.2	32.8	32.5	32.6	33.1	34.1	35.5	37.0	38.1	39.3	39.8	40.4	40.5	40.4	39.6	38.6	38.0	37.1	36.3	35.8	35.0	36.3
Norfolk, Va.	44.1	43.8	43.6	43.2	42.5	42.1	42.4	43.8	45.7	47.5	48.6	49.6	49.6	50.2	50.2	49.6	48.7	47.2	46.5	46.0	45.3	44.6	44.2	46.2	
North Platte, Nebr.	31.7	30.9	29.5	27.9	26.7	25.8	24.7	23.9	25.7	28.0	30.0	34.5	39.2	42.5	45.3	47.3	48.4	49.0	48.1	46.6	45.6	44.6	43.4	42.9	44.2
Omaha, Nebr.	35.7	35.1	34.3	33.4	32.0	31.0	29.9	29.4	30.6	33.0	36.0	38.8	40.4	42.1	43.4	44.2	44.1	44.0	43.2	42.5	41.9	41.1	40.1	39.3	41.2
Parkersburg, W. Va.	37.7	37.0	36.1	35.5	35.3	34.8	34.6	35.8	37.6	39.7	41.4	42.9	44.4	45.7	46.4	47.0	46.6	45.9	43.6	42.1	41.1	40.1	39.3	38.6	40.4
Philadelphia, Pa.	36.2	35.5	35.1	34.5	34.0	34.0	33.8	35.1	35.9	37.3	38.8	40.4	41.7	42.2	43.1	43.5	43.3	42.5	41.2	40.7	39.5	38.7	37.7	36.9	38.4
Pittsburg, Pa.	34.9	34.1	33.4	32.9	32.3	31.9	31.8	32.3	33.5	35.4	36.9	38.5	40.0	40.9	41.3	41.5	40.9	40.4	39.4	38.6	37.7	36.9	36.2	35.4	36.5
Portland, Oreg.	45.1	44.1	43.3	42.5	41.5	40.9	40.3	39.8	39.7	39.4	40.1	41.6	43.9	45.9	47.9	49.5	50.9	51.7	52.3	51.8	50.2	48.9	47.5	46.1	45.2
Rapid City, S. Dak.	26.1	26.3	26.1	25.9	25.7	25.1	24.3	24.2	25.6	29.1	33.3	36.0	37.7	38.8	39.0	39.3	39.1	38.8	37.9	35.1	32.3	30.5	28.8	27.6	31.3
Red Bluff, Cal.	50.5	49.5	48.1	47.1	46.3	45.5	45.0	44.9	44.0	44.3	46.5	49.9	52.8	55.2	57.3	59.1	59.9	60.5	60.5	60.2	57.8	55.8	53.6	51.9	51.9
Rochester, N. Y.	26.4	25.8	25.1	25.0	24.7	24.1	24.0	25.4	26.8	28.4	30.0	31.0	32.0	32.5	33.0	32.7	32.6	31.2	29.3	28.3	27.8	27.3	26.6	26.4	28.2
Roseburg, Oreg.	43.4	41.9	40.6	39.6	38.7	37.8	37.2	36.7	36.6	36.6	36.9	38.5	41.5	44.7	47.9	50.1	50.9	52.5	54.2	54.3	54.1	52.2	50.0	47.5	45.7
St. Louis, Mo.	41.6	40.6	39.9	39.1	38.4	38.0	37.8	37.9	38.7	40.6	42.5	45.3	47.1	48.7	50.1	50.9	50.9	50.3	49.3	47.5	46.2	44.9	43.5	42.5	43.8
St. Paul, Minn.	26.8	25.9	25.2	24.1	23.4	22.6	21.9	21.4	22.1	24.1	26.9	29.0	31.2	32.8	34.2	34.9	35.2	35.0	34.4	32.7	31.5	30.0	28.9	28.0	28.4
Salt Lake City, Utah.	38.3	37.0	36.3	35.8	34.8	35.3	35.1	34.7	34.1	35.8	38.5	41.4	43.6	45.5	46.2	47.1	47.5	47.5	47.4	46.0	43.5	41.4	40.2	39.3	40.5
San Diego, Cal.	51.9	51.4	51.1	50.8	50.6	50.6	50.6	50.3	50.1	50.7	53.1	55.3	56.9	58.0	58.9	59.2	59.6	59.3	58.8	58.0	55.7	54.6	53.4	52.9	54.3
San Francisco, Cal.	50.5	50.2	49.8	49.5	49.3	48.7	48.4	48.4	48.1	48.4	49.1	50.0	51.3	52.8	53.8	54.7	55.2	54.9	54.5	55.0	54.1	52.7	52.1	51.5	51.2
Santa Fe, N. Mex.	36.5	35.6	34.8	34.2	33.2	32.2	31.4	31.0	32.4	34.1	36.3	38.8	41.3	43.4	45.3	46.7	47.5	48.2	48.6	47.4	45.3	41.3	39.3	37.5	39.4
Sault Ste. Marie, Mich.	13.9	13.2	12.4	11.6	10.7	9.5	9.0	9.7	11.4	14.1	17.1	20.2	21.2	21.6	21.6	21.6	21.2	20.6	19.3	18.3	17.3	16.7	15.6	14.9	15.8
Savannah, Ga.	55.0	54.5	53.7	52.8	52.2	51.5	51.5	53.2	55.6	58.4	60.6	62.9	64.0	65.0	65.0	64.5	63.4	61.9	59.5	58.0	57.3	56.6	55.7	55.2	57.8
Seattle, Wash.	43.4	42.9	42.2	41.6	40.9	40.6	40.2	39.6	39.5	39.4	39.9	41.5	43.5	44.3	44.3	46.0	47.4	48.5	48.8	49.5	49.3	48.1	46.8	45.6	44.8	43.9
Shreveport, La.	55.2	54.1	53.1	52.5	51.5	51.0	50.6	50.9	52.2	54.2	56.8	59.5	61.3	63.2	64.3	63.6	65.3	65.8	65.4	63.7	62.0	60.5	59.3	58.0	56.6	57.8
Spokane, Wash.	36.9	36.1	34.8	34.2	33.4	32.6	31.7	31.6	30.9	31.5	33.3	35.7	38.8	41.0	43.6	45.3	46.8	47.7	47.8	46.6	44.4	42.6	40.3	38.9	38.6
Titusville, Fla.	61.9	61.2	60.9	60.4	60.3	59.7	59.8	62.8	65.8	68.2	69.5	70.6	71.0	71.8	72.6	72.5	71.5	70.2	68.3	67.6	66.3	65.5	65.1	64.0	63.0	65.9
Toledo, Ohio	38.7	38.2	37.6	36.8	36.5	36.2	35.8	36.3	37.1	38.7	39.7	32.8	33.5	34.2	34.8	35.1	34.5	34.0	33.1	32.1	31.6	30.7	29.9	29.0	30.3
Tucson, Ariz.	55.2	52.8	50.6	49.2	47.7	46.5	45.4	44.2	43.7	47.4	55.8	62.5	66.0	68.9	70.8	72.3	73.1	73.2	72.3	69.7	65.3	62.3	60.2	57.6	58.9
Vicksburg, Miss.	56.2	55.2	54.6	53.9	53.2	52.4	51.8	53.4	55.5	57.9	59.9	62.0	63.5	64.7	65.5	65.7	64.0	62.1	60.8	59.6	58.3	57.1	58.6		
Washington, D. C.	39.9	39.3	38.7	38.1	37.5	36.7	36.3	37.2	39.7	40.8	42.3	43.9	45.3	46.6	47.5	47.5	46.4	43.4	42.5	41.9	41.0	40.2	41.9		
Williston, N. Dak.	23.0	22.5	21.9	21.1	20.4	20.0	19.0	18.0	18.6	21.2	24.6	28.0	30.6	32.6	34.9	35.8	36.4	36.3	35.0	32.4	29.5	27.3	25.6	24.4	26.6
Wilmington, N. C.	49.9	49.4	49.1	48.6	48.1	47.5	47.5	49.0	51.0	52.7	54.7	56.2	57.5	58.3	58.3	58.1	57.4	56.0	53.9	53.4	51.2	50.6	50.2	49.9	52.4
Winnemucca, Nev.	36.6	35.5	34.0	33.5	32.5	31.5	30.3	29.4	29.6	30.0	32.9	37.4	40.8	43.1	45.1	46.8	47.8	48.5	48.5	48.3	46.2	43.2	40.6	38.6	38.8
Yuma, Ariz.	61.1	59.5	57.9	56.8	55.9	54.2	53.5	52.7	52.7	56.2	61.8	66.6	70.3	73.0	75.2	76.5	77.5	77.8	77.2	75.4	71.0	67.2	64.4	62.1	64.9

TABLE V.—*Mean pressure for each hour of seventy-fifth meridian time, March*, 1895.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex.....	28.224	.231	.230	.228	.228	.235	.246	.255	.261	.265	.266	.263	.254	.235	.206	.180	.160	.156	.160	.171	.177	.193	.212	.221	.219
Albany, N. Y	29.893	.888	.886	.886	.897	.907	.919	.928	.928	.928	.923	.915	.899	.885	.882	.879	.883	.885	.893	.900	.906	.911	.913	.910	.902
Alpena, Mich	29.325	.326	.323	.319	.327	.333	.341	.348	.348	.344	.335	.325	.314	.298	.293	.292	.292	.294	.305	.315	.326	.333	.337	.340	.322
Atlanta, Ga.....	28.886	.886	.882	.878	.885	.899	.910	.926	.933	.940	.937	.927	.911	.889	.873	.867	.862	.864	.869	.874	.883	.889	.891	.890	.894
Augusta, Ga	29.896	.897	.890	.886	.895	.908	.921	.929	.927	.935	.931	.922	.904	.884	.864	.855	.852	.856	.863	.872	.883	.893	.898	.900	.894
Baltimore, Md.....	29.815	.810	.807	.810	.817	.830	.844	.850	.855	.854	.850	.841	.827	.809	.802	.794	.798	.801	.808	.818	.824	.829	.831	.830	.823
Bismarck, N. Dak..	28.201	.206	.212	.213	.210	.214	.217	.223	.226	.229	.225	.216	.201	.185	.170	.155	.149	.150	.155	.163	.167	.177	.176	.193	.193
Boston, Mass	29.796	.785	.782	.785	.791	.801	.809	.817	.814	.814	.810	.808	.792	.784	.788	.785	.793	.797	.805	.806	.811	.814	.817	.813	.800
Buffalo, N. Y.....	29.258	.258	.256	.257	.263	.269	.278	.284	.285	.286	.279	.270	.257	.240	.233	.233	.235	.242	.251	.255	.261	.265	.267	.269	.260
Charleston, N. C...	30.058	.054	.052	.052	.057	.069	.088	.098	.109	.116	.111	.095	.079	.064	.051	.040	.035	.036	.040	.049	.056	.062	.065	.062	.067
Chicago, Ill	29.133	.129	.123	.121	.121	.125	.133	.141	.145	.151	.150	.151	.141	.127	.117	.115	.113	.114	.119	.130	.138	.147	.147	.145	.132
Cincinnati, Ohio...	29.371	.372	.366	.361	.365	.370	.378	.390	.398	.400	.397	.389	.377	.357	.346	.340	.340	.344	.348	.355	.370	.376	.379	.380	.370
Cleveland, Ohio....	29.234	.237	.233	.233	.235	.237	.240	.238	.237	.236	.230	.226	.219	.206	.199	.196	.197	.198	.204	.213	.221	.225	.230	.227	.223
Columbus, Ohio....	29.157	.158	.156	.154	.157	.165	.168	.172	.177	.178	.172	.167	.156	.140	.130	.127	.125	.131	.136	.139	.149	.158	.164	.164	.154
Denver, Colo.....	24.685	.680	.680	.676	.669	.672	.677	.687	.694	.700	.704	.706	.701	.690	.671	.654	.647	.642	.642	.642	.647	.650	.668	.676	.681	.675
Des Moines, Iowa..	29.108	.108	.106	.103	.105	.111	.118	.123	.133	.140	.140	.139	.128	.113	.096	.089	.081	.080	.086	.096	.100	.111	.114	.111	.110
Detroit, Mich	29.239	.238	.238	.235	.233	.235	.242	.246	.245	.245	.243	.237	.231	.216	.207	.208	.208	.207	.215	.224	.232	.245	.248	.247	.231
Dodge City, Kans..	27.377	.377	.379	.373	.366	.364	.373	.384	.397	.408	.414	.412	.403	.384	.359	.340	.332	.329	.334	.338	.350	.360	.369	.374	.371
Duluth, Minn	29.218	.224	.219	.218	.221	.226	.230	.233	.237	.236	.231	.229	.217	.205	.190	.182	.176	.179	.184	.194	.201	.211	.218	.226	.213
Eastport, Me	29.745	.738	.735	.740	.749	.759	.770	.781	.783	.779	.772	.757	.741	.731	.726	.728	.734	.740	.754	.759	.765	.765	.760	.758	.753
El Paso, Tex.....	26.190	.188	.190	.188	.184	.185	.195	.206	.221	.238	.243	.239	.226	.207	.184	.162	.147	.136	.131	.137	.148	.163	.179	.189	.187
Fort Canby, Wash.	29.773	.770	.769	.773	.773	.769	.767	.765	.767	.772	.780	.788	.795	.797	.797	.790	.783	.777	.769	.762	.759	.757	.759	.760	.774
Galveston, Tex....	30.056	.055	.043	.037	.033	.040	.050	.065	.077	.090	.094	.093	.081	.061	.044	.027	.021	.021	.026	.031	.041	.054	.060	.059	.052
Grand Haven, Mich	29.325	.325	.327	.320	.319	.323	.326	.333	.337	.335	.333	.327	.322	.314	.308	.302	.300	.299	.304	.306	.312	.320	.326	.331	.320
Havre, Mont.....	27.317	.318	.317	.315	.309	.306	.307	.305	.309	.315	.318	.320	.319	.308	.295	.285	.281	.278	.277	.281	.287	.296	.305	.309	.303
Helena, Mont.....	25.780	.779	.783	.783	.779	.782	.787	.789	.789	.790	.791	.787	.780	.770	.758	.752	.748	.748	.747	.751	.755	.761	.769	.770	.772
Huron, S. Dak	28.594	.600	.608	.610	.611	.614	.625	.628	.631	.632	.629	.626	.618	.605	.585	.573	.565	.558	.554	.559	.562	.572	.583	.585	.597
Independence, Cal.	25.997	.004	.006	.005	.003	.998	.993	.997	.003	.014	.027	.032	.030	.023	.004	.984	.963	.952	.945	.947	.953	.960	.973	.985	.992
Indianapolis, Ind..	29.205	.209	.205	.200	.204	.212	.223	.233	.241	.241	.234	.227	.215	.202	.189	.182	.178	.180	.188	.195	.202	.209	.212	.212	.208
Jacksonville, Fla..	30.065	.061	.057	.056	.056	.077	.095	.104	.115	.115	.108	.092	.066	.051	.033	.034	.027	.030	.042	.051	.065	.070	.074	.072	.067
Kansas City, Mo...	29.018	.012	.013	.005	.004	.013	.025	.035	.051	.059	.063	.062	.056	.034	.020	.005	.994	.990	.993	.002	.010	.018	.021	.019	.022
Key West, Fla	30.102	.090	.081	.080	.084	.094	.108	.121	.129	.131	.131	.123	.107	.092	.078	.067	.068	.074	.084	.095	.105	.111	.112	.109	.099
Knoxville, Tenn...	29.030	.029	.026	.026	.028	.040	.053	.058	.064	.068	.066	.057	.040	.017	.005	.995	.989	.994	.005	.015	.026	.035	.039	.037	.031
Little Rock, Ark...	29.732	.733	.725	.721	.725	.735	.753	.767	.782	.790	.789	.780	.764	.741	.720	.708	.699	.697	.698	.705	.714	.727	.732	.734	.736
Louisville, Ky.....	29.479	.476	.471	.466	.466	.474	.487	.502	.508	.511	.509	.503	.489	.472	.459	.456	.455	.454	.461	.467	.477	.484	.487	.487	.479
Lynchburg, Va.....	29.291	.286	.282	.287	.297	.307	.318	.324	.329	.330	.322	.310	.289	.270	.261	.253	.257	.264	.273	.282	.293	.298	.301	.300	.293
Marquette, Mich...	29.176	.179	.179	.175	.181	.181	.184	.188	.189	.193	.193	.190	.188	.178	.170	.166	.167	.172	.176	.178	.185	.187	.189	.187	.181
Memphis, Tenn	29.719	.726	.725	.721	.723	.731	.743	.755	.769	.775	.779	.773	.758	.732	.714	.704	.696	.696	.697	.701	.709	.719	.724	.726	.730
Milwaukee, Wis....	29.282	.288	.288	.286	.287	.292	.299	.309	.314	.315	.308	.304	.296	.289	.276	.269	.263	.261	.270	.276	.278	.282	.285	.280	.288
Moorhead, Minn...	28.964	.968	.971	.972	.976	.984	.990	.992	.994	.995	.995	.994	.986	.975	.960	.952	.948	.945	.946	.949	.947	.947	.953	.955	.969
Nantucket, Mass...	29.935	.925	.919	.914	.916	.921	.929	.938	.939	.936	.930	.922	.914	.904	.903	.907	.913	.922	.932	.939	.942	.945	.946	.947	.927
Nashville, Tenn	29.475	.475	.466	.465	.470	.479	.491	.497	.506	.508	.506	.498	.481	.464	.453	.451	.450	.455	.463	.471	.478	.478	.478	.477	.476
New Haven, Conn..	29.841	.834	.833	.835	.844	.855	.869	.872	.870	.867	.861	.854	.840	.831	.825	.825	.830	.836	.844	.853	.860	.861	.862	.861	.848
New Orleans, La...	30.034	.026	.020	.017	.019	.031	.042	.054	.066	.077	.079	.073	.057	.032	.015	.004	.998	.001	.008	.020	.026	.029	.043	.037	.034
New York, N. Y ...	29.787	.782	.777	.778	.785	.797	.808	.810	.812	.813	.811	.804	.791	.777	.775	.776	.783	.788	.790	.797	.801	.806	.807	.806	.794
Norfolk, Va.....	29.973	.968	.959	.961	.973	.984	.999	.006	.015	.016	.015	.006	.990	.973	.966	.961	.963	.965	.976	.984	.991	.991	.990	.985	.984
Omaha, Nebr.....	28.833	.834	.839	.834	.834	.839	.849	.860	.872	.877	.877	.878	.871	.854	.835	.825	.816	.812	.818	.821	.826	.831	.835	.828	.842
Parkersburg, W.Va	29.371	.370	.366	.368	.373	.380	.385	.392	.394	.396	.392	.384	.374	.362	.346	.338	.337	.338	.347	.354	.363	.371	.372	.376	.369
Philadelphia, Pa...	29.876	.875	.873	.875	.881	.885	.898	.907	.916	.918	.915	.906	.893	.883	.876	.871	.868	.868	.874	.881	.886	.890	.891	.890	.887
Pittsburg, Pa	29.114	.118	.119	.123	.128	.136	.144	.147	.150	.145	.137	.128	.117	.102	.094	.089	.089	.093	.096	.102	.109	.111	.115	.115	.118
Portland, Oreg....	29.839	.838	.838	.842	.845	.845	.846	.846	.848	.855	.863	.868	.868	.864	.853	.840	.824	.816	.810	.806	.808	.812	.819	.823	.838
Rochester, N. Y...	29.431	.433	.430	.432	.442	.449	.456	.462	.464	.465	.464	.457	.441	.428	.420	.415	.414	.424	.437	.440	.442	.444	.455	.457	.442
Roseburg, Oreg....	29.427	.435	.437	.440	.444	.442	.439	.439	.441	.440	.443	.447	.453	.449	.438	.425	.406	.394	.388	.384	.384	.390	.401	.411	.425
St. Louis, Mo	29.446	.447	.441	.436	.436	.445	.452	.464	.473	.477	.478	.477	.469	.451	.439	.429	.423	.419	.422	.428	.441	.451	.455	.453	.448
St. Paul, Minn	29.099	.101	.109	.105	.105	.109	.115	.120	.122	.124	.123	.123	.116	.105	.089	.078	.074	.074	.077	.084	.088	.097	.103	.104	.102
Salt Lake City, Utah	25.628	.630	.632	.635	.629	.630	.635	.641	.647	.653	.657	.658	.655	.646	.631	.617	.608	.600	.594	.595	.603	.609	.614	.620	.628
San Diego, Cal.....	29.975	.972	.969	.965	.958	.951	.951	.956	.963	.978	.988	.996	.998	.995	.983	.968	.953	.949	.945	.942	.951	.957	.968	.975	.967
San Francisco Cal.	29.926	.926	.928	.931	.927	.915	.914	.920	.925	.937	.946	.955	.958	.956	.950	.936	.924	.917	.910	.904	.905	.910	.917	.926	.928
San L. Obispo, Cal.	29.848	.846	.845	.846	.841	.833	.829	.832	.836	.844	.854	.861	.862	.861	.852	.841	.829	.822	.819	.817	.819	.828	.837	.849	.840
Santa Fe, N. Mex..	23.229	.228	.227	.227	.221	.218	.220	.225	.230	.238	.244	.248	.246	.239	.233	.209	.197	.192	.190	.193	.201	.210	.220	.228	.221
S'lt Ste. Marie, Mich	29.251	.252	.250	.251	.259	.270	.285	.296	.296	.292	.284	.280	.271	.259	.253	.255	.257	.262	.265	.271	.272	.272	.271	.269	.269
Savannah, Ga.....	29.995	.995	.991	.991	.004	.015	.028	.040	.046	.046	.043	.030	.009	.990	.972	.961	.959	.963	.970	.981	.990	.998	.000	.999	.001
Seattle, Wash	29.844	.843	.844	.845	.846	.846	.847	.847	.851	.862	.860	.864	.865	.862	.856	.851	.840	.833	.828	.823	.820	.822	.827	.829	.843
Spokane, Wash....	27.952	.952	.949	.951	.951	.951	.955	.957	.965	.974	.980	.987	.982	.974	.963	.953	.942	.933	.928	.925	.927	.928	.933	.937	.952
Tatoosh, Wash	29.854	.853	.851	.852	.854	.850	.843	.841	.841	.844	.854	.862	.865	.869	.876	.872	.865	.861	.856	.850	.846	.842	.842	.843	.853
Toledo, Ohio.....	29.308	.311	.306	.301	.305	.311	.319	.322	.324	.322	.318	.312	.301	.290	.279	.274	.276	.279	.285	.293	.302	.306	.313	.316	.308
Vicksburg, Miss...	29.788	.788	.784	.778	.781	.791	.806	.822	.832	.843	.848	.846	.835	.812	.791	.775	.766	.760	.762	.766	.772	.782	.789	.791	.796
Washington, D. C..	29.906	.906	.902	.906	.912	.926	.938	.951	.958	.962	.959	.947	.932	.910	.902	.892	.892	.897	.905	.911	.917	.920	.923	.917	.920
Wilmington, N. C..	29.988	.982	.980	.982	.994	.005	.021	.033	.038	.038	.024	.013	.991	.977	.964	.957	.962	.966	.975	.982	.994	.997	.997	.996	.994
Yuma, Ariz	29.819	.820	.821	.821	.818	.818	.825	.833	.847	.860	.871	.875	.871	.860	.837	.813	.795	.781	.775	.775	.779	.789	.805	.819	.822

TABLE VI.—*Average wind movement for each hour of seventy-fifth meridian time, March, 1895.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex.	10.5	10.7	11.2	11.5	11.1	10.7	9.9	9.8	10.5	12.6	12.9	14.1	14.2	13.3	13.7	14.1	14.5	13.9	13.2	11.4	9.6	9.8	9.9	10.9	11.8
Albany, N. Y.	8.5	8.0	8.1	7.8	7.5	8.0	8.2	9.8	10.7	11.6	11.8	11.8	11.7	11.9	11.9	11.3	10.7	9.2	8.0	7.1	6.8	7.5	7.6	7.8	9.3
Alpena, Mich.	9.5	9.4	9.5	9.3	9.0	9.3	9.6	10.5	11.4	12.8	13.2	14.5	13.3	15.6	15.6	16.1	15.8	15.3	13.5	12.2	12.2	11.7	11.3	10.3	12.2
Amarillo, Tex.*	18.8	18.7	18.5	17.8	17.4	16.3	16.3	15.5	15.5	16.7	18.4	19.7	21.0	20.4	20.7	21.3	20.8	21.1	21.1	19.0	18.6	18.6	18.6	18.3	18.7
Atlanta, Ga.	11.0	11.8	11.7	10.8	11.1	11.2	10.4	10.1	10.8	10.8	10.7	10.6	11.0	11.3	11.8	12.2	11.8	10.4	9.6	9.6	10.4	10.3	11.1	11.4	10.9
Augusta, Ga.	4.2	4.3	4.5	4.6	4.6	4.6	5.1	4.7	5.5	5.7	5.8	6.1	6.3	6.1	6.3	6.2	6.3	6.0	6.0	5.0	4.4	4.0	4.1	4.5	5.2
Baker City, Oreg.	5.5	5.7	6.1	6.8	7.4	7.7	7.6	8.0	7.6	7.2	6.4	6.1	5.6	6.2	6.9	7.1	7.6	7.6	6.9	6.4	4.9	5.1	5.4	4.8	6.5
Baltimore, Md.	6.7	6.7	6.9	7.2	7.9	8.5	8.7	9.5	10.9	11.6	11.9	12.3	12.2	12.6	13.2	12.6	12.5	10.8	8.4	7.3	7.8	7.5	7.6	6.7	9.5
Bismarck, N. Dak.	9.5	8.7	7.9	7.5	7.8	8.4	8.8	9.3	10.1	11.6	12.5	14.0	15.2	15.9	15.8	15.5	15.7	16.3	14.8	11.6	9.6	9.4	9.1	9.1	11.4
Block Island, R. I.	14.8	14.9	14.9	15.6	15.0	16.7	17.1	17.8	17.6	17.3	16.4	16.8	16.0	16.8	16.5	16.8	16.3	15.9	15.8	15.7	16.2	15.6	15.3	15.3	16.1
Boston, Mass.	10.9	11.0	11.0	11.4	11.0	10.9	11.7	12.5	13.5	14.2	15.1	15.0	15.0	15.4	14.7	14.5	14.2	12.5	11.1	10.9	11.1	11.2	11.5	11.0	12.6
Buffalo, N. Y.	11.4	11.8	11.5	11.0	10.9	11.3	11.0	10.9	11.7	12.4	12.5	13.6	14.8	15.2	15.0	15.1	15.1	13.9	12.8	11.7	11.4	11.6	11.8	12.3	12.5
Cairo, Ill.	9.1	9.8	10.7	9.6	9.5	9.6	10.3	10.5	10.6	12.4	12.5	12.5	12.5	13.3	14.0	13.7	13.7	12.4	10.7	9.1	8.9	8.9	9.2	8.6	10.9
Cape Henry, Va.	13.3	15.0	15.2	16.0	15.9	15.9	15.3	16.2	15.7	15.8	15.5	16.2	16.3	18.0	16.8	16.1	15.7	13.9	12.7	12.8	12.9	12.8	13.0	13.7	15.0
Charleston, S. C.	7.7	7.6	7.7	7.8	8.2	8.4	7.9	8.5	9.1	9.2	9.6	9.8	10.2	10.4	10.1	9.8	9.9	9.6	7.7	6.2	6.7	7.7	7.9	7.7	8.6
Charlotte, N. C.	8.5	9.3	8.5	8.6	8.3	7.1	7.2	7.1	7.9	8.5	8.8	8.8	9.7	10.0	10.5	10.5	10.3	9.5	8.4	7.5	8.1	8.0	8.0	7.9	8.6
Chattanooga, Tenn.	7.1	6.6	6.3	6.5	6.2	6.0	5.5	5.9	6.1	7.4	7.8	8.0	8.5	9.2	9.9	9.9	10.1	10.3	10.1	8.4	7.3	6.7	6.5	6.2	7.6
Cheyenne, Wyo.	11.2	11.4	12.3	12.2	11.8	10.4	10.5	11.2	10.6	12.0	15.2	17.3	18.1	19.1	19.3	20.1	19.6	18.6	16.7	15.7	14.3	14.2	13.0	11.5	14.4
Chicago, Ill.	17.9	19.1	19.5	19.1	18.3	19.3	19.7	20.1	20.4	20.2	21.5	22.5	22.7	23.0	22.5	23.4	22.5	21.7	19.8	17.7	17.5	16.9	17.5	17.2	20.0
Cincinnati, Ohio.	8.5	8.1	8.2	8.1	7.6	7.6	7.9	8.3	9.3	10.1	10.6	11.4	12.1	12.5	12.5	12.8	12.6	12.0	10.6	10.3	9.4	8.7	8.4	8.2	9.8
Cleveland, Ohio.	14.2	13.2	12.6	11.6	11.2	11.1	11.2	11.9	12.8	14.8	15.0	16.3	17.1	17.6	17.9	17.9	17.2	15.7	14.5	13.4	13.4	12.6	13.3	14.0	14.2
Columbia, Mo.	8.2	8.4	8.1	7.7	8.3	7.7	7.5	8.0	9.1	11.0	11.4	11.4	10.9	10.9	11.7	11.8	12.2	11.4	9.9	7.7	7.5	7.2	8.0	8.3	9.3
Columbus, Ohio.	7.1	7.7	7.2	6.8	7.0	6.8	6.6	7.5	8.3	9.0	9.7	9.9	10.5	10.8	10.9	10.9	10.5	9.7	8.6	8.1	8.3	7.8	8.0	8.0	8.6
Concordia, Kans.	8.9	8.0	7.8	7.3	6.8	7.2	7.4	7.5	8.5	9.5	10.9	11.4	11.4	11.7	11.6	12.6	12.4	11.6	9.9	7.9	7.5	7.7	8.7	8.4	9.3
Corpus Christi, Tex.	9.7	10.3	10.1	9.9	9.4	10.1	10.2	10.4	10.2	10.2	11.0	11.5	12.3	13.7	14.1	15.1	15.2	15.6	15.3	14.3	13.1	12.4	11.5	10.7	11.9
Davenport, Iowa.	9.5	9.5	9.6	9.4	9.8	10.0	10.1	9.9	11.5	13.0	14.6	15.4	16.2	17.0	17.5	17.9	17.4	15.8	13.3	11.0	9.9	9.6	10.1	9.6	12.4
Denver, Colo.	7.9	7.2	7.1	7.9	7.7	8.2	8.5	8.2	8.0	8.0	8.0	8.1	7.6	10.0	11.4	12.2	12.3	12.0	10.4	9.8	9.3	8.0	6.8	7.7	8.8
Des Moines, Iowa.	7.7	7.5	7.5	7.5	7.9	8.6	9.3	9.7	10.2	11.7	13.3	13.6	14.0	14.0	14.2	14.6	14.3	14.0	12.5	10.3	8.5	7.8	7.6	7.6	10.6
Detroit, Mich.	9.9	10.0	9.7	10.1	10.7	11.1	10.8	11.5	12.7	14.0	14.4	15.1	14.6	15.5	16.1	16.0	14.9	13.5	12.4	11.3	11.7	11.8	11.6	11.0	12.5
Dodge City, Kans.	10.0	10.5	9.9	10.2	10.6	11.0	11.9	11.3	11.1	13.1	15.7	15.7	16.0	16.5	16.9	16.7	16.0	15.4	14.6	12.5	10.7	10.7	9.8	9.7	12.8
Duluth, Minn.	11.3	11.2	11.3	11.2	11.7	11.8	12.0	12.2	11.9	12.1	12.6	13.2	14.0	14.8	15.5	16.4	15.7	14.9	13.7	11.9	11.6	11.3	11.5	11.0	12.7
Eastport, Me.	11.4	10.1	9.8	10.7	10.9	11.3	11.9	11.9	11.7	11.7	11.7	11.7	11.5	12.3	12.3	13.1	12.8	11.8	10.5	10.2	10.9	11.3	11.5	12.2	11.5
El Paso, Tex.	11.5	10.9	11.9	12.1	12.1	11.4	10.4	10.8	10.5	10.9	11.9	14.2	16.6	17.4	19.7	19.9	19.8	19.7	19.0	16.6	14.1	11.9	11.5	11.5	14.0
Erie, Pa.	12.0	11.4	11.1	11.0	10.8	10.5	10.2	11.0	11.5	12.1	12.8	13.0	13.7	13.5	14.6	14.0	13.1	11.4	11.7	11.7	11.4	11.1	11.7	11.5	11.9
Eureka, Cal.	5.8	5.5	5.7	5.0	5.7	5.2	5.3	5.2	5.7	5.6	5.4	6.0	6.4	8.0	9.0	9.9	10.7	11.4	11.8	11.3	9.6	7.8	7.4	5.9	7.3
Fort Canby, Wash.	14.2	14.3	13.8	14.9	15.0	14.3	14.7	14.1	13.2	13.7	12.8	13.2	13.8	13.5	13.5	14.6	13.6	14.3	15.1	14.0	14.6	14.4	15.3	15.3	14.2
Fort Smith, Ark.	5.3	5.8	5.9	5.8	6.5	6.5	5.9	6.0	6.5	7.9	9.1	9.0	8.5	9.4	9.4	9.4	9.8	9.3	7.9	6.8	6.3	6.3	6.2	6.0	7.3
Fresno, Cal.	4.7	4.5	4.6	5.0	4.7	4.3	4.5	4.8	4.7	4.6	4.7	5.5	6.5	6.0	5.8	5.7	5.8	6.0	6.3	6.0	4.9	4.2	4.4	4.1	5.1
Galveston, Tex.	11.4	10.8	10.6	11.4	11.7	11.3	11.7	12.0	12.3	12.8	12.8	12.5	12.8	13.1	13.3	12.8	12.8	12.7	12.0	11.9	11.8	11.6	10.9	11.0	12.0
Grand Haven, Mich.	11.1	11.3	11.2	11.0	11.3	11.0	11.6	11.9	13.0	13.4	14.6	15.7	15.9	15.3	15.1	13.9	13.1	12.3	11.2	10.2	10.1	9.6	9.8	11.1	12.3
Green Bay, Wis.	9.3	9.4	9.5	9.5	9.8	10.4	9.7	10.0	11.1	12.3	12.0	12.8	12.6	13.1	13.2	13.2	13.3	12.4	11.7	9.3	8.5	8.7	7.8	8.7	10.8
Hannibal, Mo.	10.8	10.2	10.3	10.2	10.4	10.7	10.7	10.7	12.2	12.9	14.8	14.9	14.7	15.1	15.1	15.1	14.9	14.2	13.3	11.3	10.4	10.4	10.5	10.2	12.2
Harrisburg, Pa.	7.6	7.8	7.1	8.5	8.9	8.9	9.0	9.3	9.9	9.8	10.2	10.3	11.1	11.2	12.1	11.8	11.4	10.2	9.4	9.0	8.8	8.6	8.2	7.5	9.4
Hatteras, N. C.	16.6	16.7	17.2	16.7	17.4	17.5	17.3	17.7	17.6	17.1	16.6	16.6	15.9	16.0	16.5	16.5	16.5	15.8	15.7	15.9	16.4	16.6	16.8	17.0	16.7
Havre, Mont.	6.2	7.3	7.8	8.3	8.4	8.7	8.4	8.5	8.5	9.4	10.9	12.4	13.7	14.5	13.9	14.2	13.2	12.9	11.7	10.8	8.2	7.8	7.2	6.9	10.0
Helena, Mont.	10.1	9.5	9.0	8.7	8.2	7.8	7.4	7.8	7.4	7.3	6.4	7.2	8.5	10.1	10.7	11.1	11.6	11.1	10.7	9.5	9.5	10.5	10.8	9.9	9.2
Huron, S. Dak.	13.8	13.3	13.5	13.1	13.6	13.2	12.5	12.5	12.4	14.7	17.0	17.5	17.4	18.9	19.1	18.9	19.2	18.5	16.6	14.1	13.3	13.5	14.3	14.5	15.2
Idaho Falls, Idaho.	8.1	8.1	8.4	9.4	8.4	7.6	7.4	7.1	6.9	7.3	7.4	7.9	8.5	8.9	10.1	10.3	10.6	11.5	11.8	10.8	9.3	8.8	8.4	8.6	8.8
Independence, Cal.	8.3	7.7	8.7	8.3	8.2	8.2	7.8	7.9	8.0	7.6	8.1	9.7	11.4	11.5	10.8	11.5	12.0	12.4	13.0	13.2	11.9	9.7	10.3	9.6	9.8
Indianapolis, Ind.	6.6	7.0	6.6	6.4	6.5	6.7	7.0	7.7	8.6	9.0	9.7	9.7	10.8	10.8	10.8	11.3	10.6	9.5	8.4	7.7	7.9	8.1	7.4	7.2	8.4
Jacksonville, Fla.	7.2	7.1	6.6	6.6	6.7	6.3	6.1	6.4	7.9	8.9	9.7	10.3	10.8	11.4	12.0	12.1	11.6	10.5	8.2	7.0	6.6	6.7	6.7	7.1	8.4
Jupiter, Fla.	8.3	8.4	8.5	7.9	7.9	7.6	8.1	8.6	10.8	12.7	13.1	13.7	14.5	15.2	15.4	15.3	14.3	13.0	10.9	10.2	9.6	9.5	9.0	9.1	10.9
Kansas City, Mo.	9.7	9.5	10.0	9.9	9.4	9.2	10.1	9.8	10.1	10.9	11.4	12.0	13.2	13.0	13.1	12.9	12.7	12.4	10.9	9.8	8.9	9.5	9.9	9.4	10.7
Keokuk, Iowa.	8.9	7.7	7.6	8.1	8.5	8.3	8.6	9.4	10.5	11.4	12.1	12.6	12.7	13.2	13.7	14.4	13.5	12.4	10.5	8.6	8.2	8.5	8.7	8.5	10.3
Key West, Fla.	9.1	9.6	9.5	9.6	9.5	9.9	10.1	10.4	11.5	12.4	12.6	12.3	11.9	12.5	12.7	12.2	12.1	11.5	10.4	10.1	10.7	10.2	10.2	9.5	10.8
Kittyhawk, N. C.	16.7	16.5	16.1	16.6	16.7	16.3	16.7	17.4	17.4	17.3	17.4	17.1	17.5	17.6	17.7	17.7	17.8	17.0	16.0	15.2	14.7	14.9	15.4	15.7	16.6
Knoxville, Tenn.	4.6	4.5	4.0	4.0	3.9	4.0	4.5	4.7	5.7	6.4	6.7	7.0	7.3	7.7	8.6	9.0	8.8	8.1	7.4	5.5	4.7	4.5	4.6	4.4	5.9
La Crosse, Wis.	8.7	9.2	9.2	8.3	8.4	8.1	8.8	8.4	9.0	9.3	9.8	10.6	11.1	11.7	12.7	13.5	12.8	12.0	11.2	9.0	7.9	8.7	8.1	7.7	9.8
Lander, Wyo.	4.5	4.8	4.0	3.9	4.5	3.6	3.6	3.8	4.0	3.9	4.2	5.5	5.5	5.9	7.0	8.0	9.1	8.3	8.5	7.6	7.3	7.0	5.3	4.2	5.6
Lexington, Ky.	13.5	14.1	13.2	12.7	12.6	13.1	12.9	13.5	14.0	15.0	15.8	16.5	16.6	17.5	19.6	18.5	17.7	16.7	13.5	12.8	13.5	12.6	12.5	13.1	14.6
Little Rock, Ark.	7.3	7.5	7.7	8.1	7.7	6.8	7.2	7.9	8.5	9.7	10.2	10.2	10.7	10.3	10.8	10.9	10.5	10.4	9.4	7.4	7.1	7.1	7.5	7.7	8.7
Los Angeles, Cal.	2.3	2.4	2.4	2.5	2.3	2.4	2.4	2.4	2.5	2.6	2.9	3.3	3.3	3.6	4.4	5.1	6.1	6.8	6.2	6.3	5.3	3.2	2.7	2.3	3.6
Louisville, Ky.	8.9	8.7	8.2	8.1	8.4	8.7	7.6	8.6	9.7	10.9	11.9	11.8	12.5	13.3	14.0	14.0	14.1	13.2	11.0	10.1	9.4	8.9	9.3	9.2	10.4
Lynchburg, Va.	5.2	4.6	4.1	3.8	4.3	4.5	4.0	4.7	5.4	6.7	6.7	6.9	7.8	8.0	8.1	8.3	7.7	7.2	5.7	5.1	5.3	4.8	4.1	4.8	5.7
Marquette, Mich.	11.0	11.1	11.8	12.8	12.8	13.0	12.6	13.1	13.1	12.9	13.1	13.7	14.6	15.3	14.6	14.0	13.4	12.5	10.5	9.5	10.0	10.0	10.7	10.9	12.4
Memphis, Tenn.	6.5	5.9	6.1	6.3	6.2	6.6	7.4	7.3	8.2	8.5	8.3	8.0	8.2	8.5	8.9	8.5	8.6	8.1	7.7	5.9	6.5	6.4	6.4	5.9	7.3
Meridian, Miss.	6.0	6.1	5.7	5.4	5.3	5.4	6.0	5.5	6.4	7.9	8.3	8.4	8.7	9.1	8.4	8.6	8.5	7.8	7.1	5.9	5.9	6.3	6.2	6.3	6.9
Miles City, Mont.	6.6	6.9	6.4	6.3	6.7	6.8	6.5	5.9	6.0	6.9	7.2	8.0	9.5	10.4	10.9	11.8	12.3	11.8	11.3	9.0	7.0	6.5	6.2	5.8	8.0
Milwaukee, Wis.	11.0	11.0	11.0	10.6	11.3	11.3	11.3	12.0	13.3	13.7	14.2	15.1	15.8	14.9	15.9	16.0	15.7	14.6	13.6	11.3	9.9	9.5	10.0	10.5	12.7
Mobile, Ala.	7.6	7.7	8.1	8.4	7.7	7.5	7.4	7.4	8.1	8.7	9.6	10.3	11.2	11.8	11.7	11.9	12.6	12.2	10.5	9.5	8.0	7.6	7.8	7.8	9.2
Montgomery, Ala.	6.8	6.5	6.3	6.2	6.0	5.7	5.8	6.0	6.8	8.3	8.8	9.1	9.0	9.2	9.0	9.1	9.0	8.4	7.5	6.5	7.9	8.2	7.5	7.5	7.5
Moorhead, Minn.	11.6	10.2	9.9	10.2	10.0	9.8	9.6	9.8	10.5	12.6	13.6	14.8	16.1	16.9	17.2	17.5	17.5	17.0	15.4	12.7	11.7	12.4	12.0	12.0	13.0
Nantucket, Mass.	12.4	12.5	12.0	12.7	13.5	13.5	12.9	13.3	13.6	13.7	14.2	13.8	14.6	14.6	14.1	13.9	12.9	11.2	11.0	11.7	11.9	12.0	11.9	12.4	12.9
Nashville, Tenn.	6.1	6.3	6.0	6.2	5.8	5.5	5.5	5.4	6.2	7.9	8.7	9.9	10.5	11.0	11.7	11.5	11.2	10.7	9.4	8.6	8.2	7.5	6.9	6.9	8.1
New Haven, Conn.	9.4	9.6	9.5	9.1	8.9	8.8	9.5	11.0	12.4	13.3	13.3	14.0	13.6	13.9	13.7	13.8	12.8	10.1	9.1	8.1	7.5	8.1	8.4	7.8	10.7
New London, Conn.	6.7	6.4	6.6	6.8	6.4	6.2	6.8	8.0	9.0	10.2	11.1	10.9	11.9	11.8	11.6	11.9	11.1	9.4	7.9	7.1	6.3	6.2	6.8	6.4	8.5
New Orleans, La.	8.7	8.8	8.5	8.2	8.3	8.7	9.2	9.5	10.5	10.7	10.8	11.2	11.3	12.2	12.5	12.1	11.8	11.8	10.6	10.4	10.1	9.4	9.0	8.9	10.1
New York, N. Y.	13.0	13.0	13.4	13.3	13.5	13.4	14.3	15.4	15.7	15.7	16.0	17.1	16.2	16.8	16.8	16.5	16.1	14.4	13.0	11.9	12.3	11.9	12.6	12.5	14.4
Norfolk, Va.	9.5	9.3	9.5	9.5	9.1	9.1	9.7	9.7	10.8	10.7	10.7	11.7	12.4	12.7	12.4	11.9	11.9	10.9	10.0	8.6	8.3	8.4	9.1	9.3	10.2
Northfield, Vt.	8.5	8.0	7.8	8.5	9.1	8.1	7.9	9.6	9.2	9.6	10.8	12.3	13.7	14.1	13.8	13.8	12.6	12.4	10.1	9.9	10.1	8.2	8.3	9.1	10.2
North Platte, Nebr.	9.6	9.4	10.4	10.2	9.4	9.0	8.4	8.4	9.6	10.4	11.3	13.8	14.0	14.7	14.7	14.3	13.9	13.4	11.2	9.8	10.2	9.5	8.8	8.5	11.0
Oklahoma, Okla.	12.1	12.1	11.3	10.9	10.2	9.9	9.9	9.3	9.6	11.8	13.5	14.4	14.3	14.6	14.5	14.8	14.3	13.8	13.7	12.0	10.7	10.7	11.2	11.8	12.1
Omaha, Nebr.	8.7	7.8	7.9	7.3	8.1	8.3	8.8	9.0	9.4	10.4	11.6	11.9	12.4	12.1	12.6	12.4	12.3	11.9	11.2	9.0	8.5	7.7	8.3	8.8	9.8
Oswego, N. Y.	11.8	12.2	13.2	13.0	13.1	12.5	11.6	12.2	12.5	12.7	12.7	12.3	12.5	13.1	13.3	12.6	12.4	11.1	12.0	12.2	12.2	12.2	12.4	12.1	12.4
Palestine, Tex.	8.0	7.8	7.8	7.7	7.7	7.5	6.7	7.1	7.4	9.3	9.8	9.7	9.9	10.1	10.2	10.5	10.8	10.1	9.9	7.9	6.9	7.7	8.5	8.2	8.6

* For twenty-nine and five-ninths days.

TABLE VI.—*Average wind movement, etc.*—Continued.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Parkersburg, W. Va..	6.3	6.4	6.2	6.2	5.6	5.6	5.7	5.2	6.5	7.4	8.3	9.3	9.5	9.8	10.0	10.0	10.0	8.9	7.4	6.9	6.3	6.1	5.5	5.7	7.3
Pensacola, Fla.....	8.5	9.2	9.6	9.4	9.3	9.9	9.7	9.0	9.9	11.1	11.4	11.0	12.0	13.4	13.4	12.6	12.4	12.1	10.8	9.3	9.2	9.3	8.9	8.5	10.4
Philadelphia, Pa.....	10.3	9.6	9.9	10.2	10.3	10.8	12.4	13.8	14.4	15.2	14.3	14.3	14.9	14.6	13.7	13.5	12.5	11.3	10.7	11.7	10.7	10.8	10.5	10.0	12.1
Pierre, S. Dak.....	9.9	9.5	8.9	9.1	9.0	8.6	8.4	8.3	7.8	8.3	9.7	9.6	11.2	12.2	12.8	14.2	15.1	15.1	14.5	12.8	11.6	11.2	10.6	10.1	10.8
Pittsburg, Pa.....	7.0	6.6	6.5	6.8	6.8	6.6	6.5	6.3	7.6	7.9	8.5	8.8	9.0	9.6	10.6	9.9	9.9	8.5	7.5	7.0	7.3	7.1	7.0	6.8	7.8
Port Angeles, Wash..	5.6	5.6	5.3	5.6	5.4	5.4	5.1	5.5	5.6	6.0	4.7	4.1	4.1	5.5	5.5	5.3	4.9	5.1	5.0	4.8	3.8	3.9	4.2	5.2	5.1
Port Huron, Mich....	11.8	11.5	11.0	10.5	11.5	11.4	11.4	11.6	12.5	14.3	15.3	14.9	15.7	16.6	16.5	16.2	15.6	13.6	12.9	11.9	11.7	12.5	13.0	13.0	13.2
Portland, Me.....	7.1	6.1	5.9	5.6	6.2	7.3	8.0	8.5	9.3	9.1	9.4	9.8	9.9	9.9	10.4	9.8	9.6	8.2	7.3	7.5	7.1	7.5	7.3	7.6	8.1
Portland, Oreg.....	8.4	8.3	9.0	9.3	8.7	9.4	8.7	8.8	9.0	9.1	9.0	8.9	9.9	10.1	11.0	10.1	9.7	9.5	9.5	8.6	7.9	7.8	7.6	7.7	9.0
Pueblo, Colo.....	6.5	5.8	5.5	5.6	5.1	5.1	5.8	5.7	5.7	5.5	7.6	8.1	8.6	10.5	12.4	13.3	13.8	14.0	13.9	12.5	10.5	9.4	7.4	6.5	8.5
Raleigh, N. C.....	7.3	7.4	7.2	7.4	7.2	7.0	6.2	7.0	8.1	8.7	8.8	8.9	9.1	9.4	9.9	9.6	9.1	8.1	7.0	6.7	7.3	7.0	6.9	7.4	7.9
Rapid City, S. Dak...	8.8	8.7	9.1	9.3	9.7	9.0	8.6	6.8	7.2	7.8	7.4	9.1	11.2	12.4	13.0	14.0	13.2	13.0	12.2	10.4	8.5	8.3	8.7	8.7	9.8
Red Bluff, Cal.....	5.2	5.2	5.5	5.4	5.8	5.8	5.8	5.6	5.2	5.3	5.4	6.4	7.5	7.2	7.7	7.7	7.7	7.7	7.6	7.5	7.1	6.6	5.9	5.7	6.4
Rochester, N. Y.....	9.0	8.8	8.8	8.6	8.1	8.4	8.3	9.2	10.1	10.8	11.3	11.4	12.6	12.5	12.9	12.2	11.5	10.3	9.5	8.6	8.7	9.1	8.9	9.1	9.9
Roseburg, Oreg.....	2.9	3.3	3.4	3.3	3.0	2.9	2.8	2.6	2.6	2.9	2.8	3.5	3.5	4.5	5.2	6.1	6.4	7.5	7.6	7.3	7.0	4.4	3.7	3.2	4.3
Sacramento, Cal.....	8.5	5.6	8.5	7.8	7.7	7.6	7.7	7.3	6.6	6.3	6.7	7.7	8.1	8.0	8.5	9.2	9.5	9.5	9.0	9.6	8.9	8.5	8.0	8.5	8.2
St. Louis, Mo.....	12.2	13.2	12.3	12.0	12.8	12.6	12.8	13.2	14.3	14.9	14.5	15.2	14.7	14.9	14.8	14.3	14.3	13.9	13.3	13.0	13.3	13.4	13.7	13.3	13.6
St. Paul, Minn.....	8.6	8.9	8.5	8.4	8.4	7.5	7.5	7.7	9.0	9.9	10.6	11.6	12.0	12.7	13.0	13.6	13.0	12.0	10.4	9.2	8.6	9.0	8.6	8.3	9.9
St. Vincent, Minn....	9.9	10.7	9.8	9.8	9.0	9.0	8.6	8.6	9.8	12.1	13.2	13.8	14.0	14.9	15.6	15.7	14.7	14.0	12.8	10.8	10.5	10.4	10.0	9.6	11.5
Salt Lake City, Utah.	6.4	7.2	6.5	5.6	5.6	5.6	5.4	5.3	5.7	6.0	6.3	7.3	8.7	9.8	11.5	12.2	13.0	12.0	10.4	9.8	8.3	7.5	7.2	6.5	7.9
San Antonio, Tex.....	7.5	7.0	6.6	6.1	6.0	5.9	5.4	5.4	6.3	7.5	8.7	8.8	9.6	10.0	10.1	9.9	10.1	10.2	9.3	8.5	7.9	7.9	8.3	8.2	8.0
San Diego, Cal.....	3.8	4.0	3.8	3.9	3.8	3.7	3.7	3.5	3.5	3.6	3.4	4.1	5.0	6.8	7.5	8.3	8.9	8.9	8.9	8.4	7.1	5.4	4.4	3.9	5.3
Sandusky, Ohio.....	11.4	10.3	9.4	9.6	9.7	9.5	10.2	9.7	10.7	11.7	12.3	12.6	13.6	13.6	13.2	13.0	12.5	11.9	11.2	9.9	10.3	10.7	11.6	11.2	11.2
San Francisco, Cal...	8.5	8.2	7.9	7.8	7.3	6.8	6.5	6.8	6.5	6.5	6.8	7.5	8.2	8.1	9.0	10.6	12.3	13.8	14.5	15.2	14.8	13.2	12.2	10.9	9.6
San Luis Obispo, Cal.	3.1	2.9	3.1	2.9	3.3	2.5	3.7	3.3	3.4	3.6	4.0	5.2	5.5	6.4	7.7	8.8	10.4	11.3	9.9	9.2	7.1	5.1	4.2	3.9	5.4
Santa Fe, N. Mex.....	6.1	5.5	5.4	5.1	4.7	4.6	4.8	5.0	4.7	5.2	7.1	9.4	10.3	11.9	12.3	12.9	12.3	11.9	11.9	10.8	7.0	5.9	5.8	5.3	7.7
Sault Ste Marie, Mich.	6.7	6.4	5.7	6.0	6.2	7.0	7.2	7.5	8.6	10.1	12.1	12.8	13.4	14.4	16.1	17.4	17.2	15.3	13.4	11.4	9.7	8.7	8.6	7.8	10.4
Savannah, Ga.....	8.0	8.7	8.6	8.4	8.8	8.3	8.1	7.6	8.9	9.9	10.2	10.4	10.4	11.0	10.5	10.4	10.3	9.7	8.9	8.5	8.8	8.3	8.1	8.0	9.1
Seattle, Wash.....	5.4	5.5	6.1	5.8	6.1	6.5	6.9	6.8	6.7	6.3	6.6	6.9	6.7	7.0	7.3	7.3	7.2	6.9	6.7	6.5	5.9	5.6	5.6	5.3	6.4
Shreveport, La.....	8.9	8.0	7.2	7.4	7.3	6.9	6.3	6.9	7.4	9.6	9.3	9.3	9.4	9.3	9.1	9.6	9.9	9.6	9.1	7.9	7.9	8.7	8.8	8.7	8.4
Sioux City, Iowa.....	10.6	10.4	10.3	9.9	10.0	10.7	10.3	10.7	10.9	12.1	13.9	15.0	15.6	16.5	16.8	17.0	16.8	15.9	14.1	11.3	10.6	10.9	10.6	10.8	12.6
Spokane, Wash.....	5.5	5.9	6.6	6.3	6.6	6.3	6.3	5.7	6.0	5.5	5.8	7.2	7.9	8.3	8.9	8.5	8.4	8.3	8.4	7.8	6.8	5.8	5.4	5.2	6.8
Springfield, Ill.....	10.8	10.8	10.4	10.7	10.9	10.9	10.7	10.9	11.9	13.8	14.8	15.1	15.0	14.9	14.7	15.0	15.0	14.1	12.3	10.8	10.4	10.6	10.3	10.8	12.3
Springfield, Mo.....	10.7	10.6	11.0	10.6	10.1	10.7	10.2	10.4	12.0	12.4	12.8	12.9	12.6	13.0	13.5	13.9	13.7	13.1	11.9	10.9	10.9	10.8	11.0	10.7	11.7
Tampa, Fla.....	6.0	6.1	5.7	5.6	6.0	6.4	6.7	7.0	8.0	8.4	8.6	9.0	9.2	9.7	9.8	9.9	9.4	8.9	7.5	6.4	6.6	6.2	6.0	6.3	7.5
Tatoosh Island, Wash.	12.6	13.6	13.8	14.2	13.4	13.7	14.2	16.1	17.0	16.3	15.5	15.0	15.6	15.8	16.1	16.1	13.9	13.7	12.5	11.9	11.5	11.9	12.1	11.7	14.1
Titusville, Fla.....	10.7	10.1	10.1	10.7	11.0	10.0	10.1	10.1	12.0	14.5	15.4	15.4	15.9	16.5	16.2	17.1	16.9	15.7	15.0	14.2	13.4	12.6	11.2	11.1	13.2
Toledo, Ohio.....	10.8	10.0	9.9	10.0	10.7	11.1	11.4	11.5	13.2	14.1	14.2	14.8	15.9	15.5	16.0	16.5	16.0	14.9	13.5	12.0	11.7	12.3	11.8	11.0	12.9
Tucson, Ariz.....	4.5	4.2	3.8	4.1	3.8	3.8	4.0	4.1	4.2	3.9	4.5	5.1	5.5	5.7	6.0	6.2	6.6	7.5	7.4	6.9	5.6	4.9	4.9	4.6	5.1
Vicksburg, Miss.....	8.2	8.1	8.3	8.2	8.2	8.3	8.9	9.0	9.4	9.3	9.3	8.1	8.5	8.9	9.3	10.1	9.7	9.0	8.5	7.3	7.7	7.9	8.0	8.1	8.6
Vineyard Haven, Mass	9.3	8.9	8.4	8.8	9.4	9.5	9.2	9.8	10.2	10.6	11.7	11.9	12.1	11.5	11.4	11.5	10.7	9.7	8.8	9.1	9.2	9.4	9.2	9.0	10.0
Walla Walla, Wash...	6.4	6.1	6.3	7.0	6.8	6.9	6.1	6.8	6.6	6.4	6.4	7.7	8.5	8.5	8.5	8.6	8.4	8.5	7.5	7.0	6.1	6.0	6.6	6.5	7.1
Washington, D. C.....	7.7	6.9	6.8	6.5	7.2	8.3	7.7	8.7	10.0	11.1	11.8	11.5	12.0	12.4	12.3	12.4	11.8	10.5	8.5	7.7	7.9	7.7	7.3	7.5	9.3
Wichita, Kans.....	9.3	10.4	10.6	9.8	8.9	9.0	9.0	9.1	10.0	11.5	13.4	14.2	14.6	14.4	14.6	15.2	14.3	13.7	12.4	10.2	9.6	9.6	9.1	9.5	11.4
Williston, N. Dak.....	9.3	9.5	9.1	8.5	8.4	8.9	9.0	9.0	9.0	9.8	11.2	12.5	13.6	14.7	15.4	15.8	16.6	15.8	15.5	14.1	11.3	10.7	9.5	9.3	11.5
Wilmington, N. C.....	8.5	8.4	8.1	8.3	8.3	8.5	8.5	8.6	9.9	10.9	10.7	10.5	11.2	11.6	11.4	11.9	11.9	10.8	9.1	8.5	9.8	9.7	9.2	8.5	9.7
Winnemucca, Nev....	9.0	9.2	9.2	9.4	9.9	10.0	10.2	10.7	10.8	10.9	9.5	11.0	12.6	12.8	13.1	13.2	13.9	12.8	13.2	12.8	11.3	9.1	8.3	8.7	10.9
Woods Holl, Mass....	16.4	14.9	14.5	15.9	16.6	16.5	16.2	16.2	15.6	16.3	16.9	17.4	17.4	17.9	17.4	17.2	18.1	17.0	15.4	16.7	16.1	16.3	16.5	17.1	16.5
Yuma, Ariz.....	7.0	7.3	6.9	5.8	6.7	6.6	5.7	5.9	5.5	4.6	6.3	8.0	9.1	8.5	8.0	8.4	8.4	8.8	9.4	10.2	9.6	8.5	7.8	7.7	7.5

TABLE VII.—*Heights of rivers above low-water mark, March, 1895.*

Stations.	Distance to mouth of river.	Danger-point on gauge.	Highest water.		Lowest water.		Me'n stage.	Monthly range.
			Height.	Date.	Height.	Date.		
Mississippi River.	*Miles.*	*Feet.*	*Feet.*		*Feet.*		*Feet.*	*Feet*
St. Paul, Minn.‡.....	2,057	14.0	.....	.....	.....	.....	.....	.....
La Crosse, Wis.‡.....	1,867	10.0	.....	.....	.....	.....	.....	.....
Dubuque, Iowa§	1,759	15.0	5.3	1	1.9	30,31	3.6	3.4
Davenport, Iowa	1,653	15.0	9.3	3	1.5	31	4.3	7.8
Keokuk, Iowa	1,523	14.0	4.8	4,12	1.7	30	3.1	3.1
Hannibal, Mo.....	1,462	17.0	5.2	5	2.3	25–31	3.6	2.9
St. Louis, Mo.	1,321	30.0	8.1	30	4.9	23	6.6	3.2
Memphis, Tenn	910	33.0	24.0	29	3.7	1	16.2	20.3
Helena, Ark	834	37.0	31.2	30,31	5.0	1	21.0	26.2
Arkansas City, Ark...	702	42.0	32.3	31	4.4	1	21.2	27.9
Greenville, Miss	662	40.0	27.3	31	3.8	1	17.4	23.5
Vicksburg, Miss	541	41.0	30.6	31	1.4	1	17.6	29.2
New Orleans, La	108	13.0	9.9	31	2.5	5	5.9	7.4
Illinois River.								
Beardstown, Ill.	76	12.0	8.6	1	7.2	28–31	7.8	1.4
Missouri River.								
Pierre, S. Dak.‡	1,132	13.0	.....	.....	.....	.....	.....	.....
Sioux City, Iowa‡ ...	802	18.7	.....	.....	.....	.....	.....	.....
Omaha, Nebr.	667	18.0	.....	.....	.....	.....	.....	.....
Kansas City, Mo.....	386	21.0	11.8	25	5.1	20	7.9	6.7
Ohio River.								
Parkersburg, W. Va.	786	38.0	23.9	4	9.3	1	15.1	14.6
Catlettsburg, Ky	652	50.0	36.5	5	13.5	1	25.2	23.0
Cincinnati, Ohio	500	45.0	36.8	7	14.8	1	27.4	22.0
Louisville, Ky.	368	24.0	13.4	20	7.6	3	10.7	5.8
Evansville, Ind.	184	30.0	29.6	23	11.4	1	21.8	18.2
Paducah, Ky.....	47	40.0	30.5	25	8.7	1	22.2	21.8
Cairo, Ill.....	1,140*	40.0	33.3	25	11.1	1	25.1	22.2
Monongahela River.								
Pittsburg, Pa	966†	22.0	15.2	3	6.5	1	9.7	8.7
Great Kanawha River.								
Charleston, W. Va....	61	30.6	18.2	3	6.4	31	9.1	11.8

Stations.	Distance to mouth of river.	Danger-point on gauge.	Highest water.		Lowest water.		Me'n stage.	Monthly range.
			Height.	Date.	Height.	Date.		
Scioto River.	*Miles.*	*Feet.*	*Feet.*		*Feet.*		*Feet.*	*Feet*
Circleville, Ohio	65	18.0	6.9	3	1.9	23–31	2.6	5.0
Big Sandy River.								
Louisa, Ky	26	.....	19.2	22	6.9	31	11.9	12.3
Wabash River.								
Mount Carmel, Ill....	50	15.0	7.0	4	3.0	31	4.3	4.0
Cumberland River.								
Burnside, Ky.....	404	50.0	34.0	21	5.8	31	12.4	28.4
Nashville, Tenn	145	40.0	31.7	25	12.1	1	20.6	9.6
Tennessee River.								
Knoxville, Tenn.....	640	29.0	14.2	22	2.8	13,28	5.3	11.4
Chattanooga, Tenn...	455	33.0	22.7	23	6.8	1	11.9	15.9
Johnsonville, Tenn...	94	21.0	34.7	23	7.6	1	17.2	17.1
Arkansas River.								
Fort Smith, Ark	351	22.0	4.7	13	1.0	1	2.5	3.7
Little Rock, Ark.....	176	23.0	9.4	16	3.1	1,2	6.0	6.3
Red River.								
Shreveport, La.....	449	29.2	8.1	21	—3.6	1	3.1	11.7
James River.								
Lynchburg, Va.....	251	18.0	9.0	3	2.0	31	3.2	7.0
Congaree River.								
Columbia, S. C....	.....	15.0	12.6	16	1.9	31	4.8	10.7
Savannah River.								
Augusta, Ga	140	32.6	28.3	17	8.9	1	14.9	19.4
Alabama River.								
Montgomery, Ala.....	215	48.0	39.9	18	6.7	1	21.0	33.2
Willamette River.								
Portland, Oreg.....	.....	15.0	7.4	29	2.5	20	4.5	4.9
Sacramento River.								
Red Bluff, Cal.....	.....	20.0	17.4	28	5.6	19	8.2	11.8
Sacramento, Cal.....	.....	28.0	21.5	3	19.4	27	20.6	2.1

*To mouth of Mississippi River. †To mouth of Ohio River. ‡River frozen. §River frozen from 1st to 9th instant, inclusive.

TABLE VIII.—*Temperature of the wet-bulb thermometer, March, 1895.*

Stations.	Local time faster or slower than 75th meridian time.	8 A. M.			8 P. M.		
		Max.	Min.	Mean.	Max.	Min.	Mean.
New England.	h. m.	°	°	°	°	°	°
Eastport, Me	32 P.	37	4	23	36	14	27
Portland, Me	19 P.	39	10	25	38	13	29
Northfield, Vt	9 P.	32	— 4	17	35	3	22
Boston, Mass	16 P.	42	14	28	46	20	31
Nantucket, Mass	20 P.	42	20	32	42	22	33
Woods Holl, Mass	17 P.	.....	.....	.....	40	21	32
Block Island, R. I	14 P.	42	18	31	45	23	34
New Haven, Conn	8 P.	42	15	28	42	20	31
New London, Conn	12 P	42	16	31	42	21	32
Middle Atlantic States.							
Albany, N Y	5 P.	39	11	25	44	13	28
New York, N. Y	4 P.	44	15	30	49	24	34
Harrisburg, Pa	7 S.	41	17	31	52	26	35
Philadelphia, Pa	0	44	16	32	54	24	35
Baltimore, Md	6 S.	47	19	32	53	25	36
Washington, D. C	8 S.	47	20	33	54	26	37
Lynchburg, Va	16 S.	54	25	37	56	27	41
Norfolk, Va	5 S.	59	27	40	58	31	43
South Atlantic States.							
Charlotte, N. C	23 S.	58	24	40	58	33	46
Hatteras, N. C	2 S.	61	30	46	61	34	47
Kittyhawk, N. C	3 S.	59	28	43	58	33	44
Raleigh, N. C	14 S.	58	24	41	56	32	45
Wilmington, N. C	12 S.	63	29	47	62	37	50
Charleston, S. C	20 S.	63	30	49	62	41	52
Augusta, Ga	27 S.	63	30	46	63	39	50
Savannah, Ga	24 S.	66	34	50	69	41	53
Jacksonville, Fla	26 S.	67	36	53	67	44	56
Florida Peninsula.							
Jupiter, Fla	20 S.	70	48	62	71	51	64
Key West, Fla	27 S.	73	53	67	73	53	67
Tampa, Fla	30 S.	70	44	59	71	44	62
Titusville, Fla	33 S.	69	43	59	72	48	61
Eastern Gulf States.							
Atlanta, Ga	37 S.	.....	.....	.....	.....	.....	.....
Pensacola, Fla	49 S.	66	31	53	67	36	56
Mobile, Ala	52 S.	68	34	52	68	38	55
Montgomery, Ala	45 S.	66	28	48	70	36	54
Meridian, Miss	55 S.	66	28	47	66	36	54
Vicksburg, Miss	1 03 S.	62	30	48	70	34	53
New Orleans, La	1 00 S.	68	36	54	70	39	57
Western Gulf States.							
Shreveport, La	1 14 S.	64	28	48	65	38	53
Fort Smith, Ark	1 17 S.	63	16	41	65	28	48
Little Rock, Ark	1 08 S.	63	22	41	62	34	48
Corpus Christi, Tex	1 30 S.	68	36	58	72	44	62
Galveston, Tex	1 19 S.	67	34	56	64	43	56
Palestine, Tex	1 22 S.	66	25	48	67	36	54
San Antonio, Tex	1 34 S.	65	30	52	68	39	56
Ohio Valley and Tenn.							
Chattanooga, Tenn	41 S.	55	24	41	61	28	45
Knoxville, Tenn	36 S.	49	33	38	56	28	43
Memphis, Tenn	1 00 S.	63	26	42	66	31	47
Nashville, Tenn	47 S.	57	23	40	62	25	45
Lexington, Ky	38 S.	52	20	34	59	21	38
Louisville, Ky	43 S.	53	22	35	61	25	40
Indianapolis, Ind	44 S.	55	14	30	58	18	36
Cincinnati, Ohio	38 S.	53	19	33	58	20	38
Columbus, Ohio	32 S.	49	17	29	63	16	34
Pittsburg, Pa	20 S.	54	16	31	54	19	37
Parkersburg, W. Va	26 S.	52	18	33	70	24	40
Lower Lake Region.							
Buffalo, N. Y	15 S.	41	3	22	43	7	25
Oswego, N. Y	6 S.	40	8	21	38	7	25
Rochester, N. Y	11 S.	42	4	23	38	7	26
Erie, Pa	20 S.	44	2	24	43	6	27
Cleveland, Ohio	27 S.	41	5	25	48	10	29
Sandusky, Ohio	30 S.	40	9	26	52	10	29
Toledo, Ohio	34 S.	40	5	24	51	10	29
Detroit, Mich	32 S.	37	2	23	45	8	26
Upper Lake Region.							
Alpena, Mich	34 S.	37	— 7	18	38	0	22
Grand Haven, Mich	45 S.	34	0	23	46	8	26
Marquette, Mich	49 S.	33	—11	16	37	— 5	20
Port Huron, Mich	30 S.	35	— 2	20	47	4	25
Sault Ste. Marie, Mich	37 S.	34	—14	9	36	— 7	17
Chicago, Ill	50 S.	37	10	25	59	15	30

Stations.	Local time faster or slower than 75th meridian time.	8 A. M.			8 P. M.		
		Max.	Min.	Mean.	Max.	Min.	Mean.
Up. Lake Region—Con.	h. m.	°	°	°	°	°	°
Milwaukee, Wis	51 S.	38	0	24	54	12	29
Green Bay, Wis	52 S.	33	— 4	19	40	3	26
Duluth, Minn	1 08 S.	38	—14	16	38	— 6	23
North Dakota.							
Moorhead, Minn	1 27 S.	33	—19	14	47	2	26
St. Vincent, Minn	1 29 S.	35	—23	10	42	—16	20
Bismarck, N. Dak	1 42 S.	33	—22	15	57	0	28
Williston, N. Dak	1 54 S.	33	—14	16	46	— 3	26
Upper Mississippi Valley.							
St. Paul, Minn	1 12 S.	38	— 5	19	45	— 2	27
La Crosse, Wis	1 05 S.	37	— 1	21	44	2	29
Davenport, Iowa	1 02 S.	49	6	26	58	12	31
Des Moines, Iowa	1 14 S.	53	3	25	55	9	33
Keokuk, Iowa	1 06 S.	55	7	29	62	12	34
Cairo, Ill	56 S.	63	22	38	63	27	42
Springfield, Ill	58 S.	54	11	30	58	16	35
Hannibal, Mo	1 05 S.	57	9	30	62	18	36
St. Louis, Mo	1 01 S.	62	15	34	64	22	41
Missouri Valley.							
Columbia, Mo	1 09 S.	.....	.....	.....	62	19	38
Kansas City, Mo	1 18 S.	59	8	32	68	10	41
Springfield, Mo	1 13 S.	59	9	34	62	21	40
Omaha, Nebr	1 24 S.	50	0	26	56	3	34
Sioux City, Iowa	1 26 S.	48	1	22	55	2	31
Pierre, S. Dak	1 41 S.	44	— 8	21	58	5	34
Huron, S. Dak	1 32 S.	44	— 9	18	51	3	30
Northern Slope.							
Havre, Mont	2 19 S.	47	—16	21	52	3	30
Miles City, Mont	2 03 S.	44	— 7	23	56	6	34
Helena, Mont	2 28 S.	42	—11	22	56	2	31
Rapid City, S. Dak	1 53 S.	45	— 6	21	50	— 2	29
Cheyenne, Wyo	1 59 S.	44	— 5	21	50	— 2	29
Lander, Wyo	2 15 S.	42	— 6	18	46	4	29
North Platte, Nebr	1 43 S.	42	— 9	22	57	— 2	36
Middle Slope.							
Denver, Colo	2 00 S.	40	0	24	53	5	36
Pueblo, Colo	1 58 S.	39	0	23	48	11	35
Concordia, Kans	1 31 S.	59	3	28	61	3	36
Dodge City, Kans	1 40 S.	44	2	28	52	9	37
Wichita, Kans	1 29 S.	62	7	32	67	13	40
Oklahoma, Okla	1 30 S.	62	12	37	72	24	47
Southern Slope.							
Abilene, Tex	1 39 S.	59	20	42	59	30	47
Amarillo, Tex	1 47 S.	42	7	30	51	21	39
Southern Plateau.							
El Paso, Tex	2 06 S.	50	22	35	52	36	44
Santa Fe, N. Mex	2 04 S.	36	16	25	46	25	34
Tucson, Ariz	2 24 S.	49	25	36	63	42	49
Yuma, Ariz	2 38 S.	56	35	45	62	46	53
Independence, Cal	2 53 S.	46	20	33	51	32	41
Middle Plateau.							
Carson City, Nev	2 59 S.	43	16	28	47	28	38
Winnemucca, Nev	2 51 S.	40	7	26	48	25	36
Salt Lake City, Utah	2 27 S.	45	18	30	50	28	38
Northern Plateau.							
Baker City, Oreg	2 51 S.	48	5	28	52	20	37
Idaho Falls, Idaho	2 28 S.	43	2	22	50	21	33
Spokane, Wash	2 49 S.	43	12	29	51	23	38
Walla Walla, Wash	2 53 S.	52	20	35	59	30	44
N. Pac. Coast Region.							
Fort Canby, Wash	3 16 S.	50	30	40	54	35	44
Port Angeles, Wash	3 14 S.	45	30	35	50	34	42
Seattle, Wash	3 09 S.	50	25	37	52	34	43
Tatoosh Island, Wash	3 19 S.	50	32	41	48	36	43
Portland, Oreg	3 11 S.	49	25	37	55	29	44
Roseburg, Oreg	3 13 S.	53	21	35	57	34	46
Mid. Pac. Coast Region.							
Eureka, Cal	3 17 S.	53	32	42	54	39	47
Red Bluff, Cal	3 09 S.	52	35	42	59	41	50
Sacramento, Cal	3 06 S.	55	35	45	60	40	51
San Francisco, Cal	3 10 S.	54	39	46	61	42	49
S. Pac. Coast Region.							
Fresno, Cal	2 59 S.	57	34	44	64	42	52
Los Angeles, Cal	2 53 S.	54	38	45	64	44	52
San Diego, Cal	2 49 S.	56	38	48	60	46	53
San Luis Obispo, Cal	3 08 S.	54	32	44	60	43	50

TABLE IX.—*Resultant winds from observations at 8 a. m. and 8 p. m., daily, during March, 1895.*

Stations.	Component direction from—				Resultant.		Stations.	Component direction from—				Resultant.	
	N.	S.	E.	W.	Direction from—	Duration.		N.	S.	E.	W.	Direction from—	Duration.
New England.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	°	*Hours.*	*Upper Lake Region*—Cont'd.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	°	*Hours.*
Eastport, Me	24	15	10	32	n. 68 w.	24	Milwaukee, Wis	21	15	16	23	n. 49 w.	9
Portland, Me	27	16	5	31	n. 67 w.	28	Green Bay, Wis	21	24	8	15	s. 67 w.	8
Northfield, Vt	26	25	2	15	n. 86 w.	13	Duluth, Minn	24	14	10	34	n. 67 w.	26
Boston, Mass	23	11	10	34	n. 63 w.	27	*North Dakota.*						
Nantucket, Mass	34	8	19	17	n. 4 e.	26	Moorhead, Minn	29	16	10	18	n. 32 w.	15
Woods Holl, Mass	7	9	7	15	s. 76 w.	8	St. Vincent, Minn	25	16	11	30	n. 45 w.	13
Block Island, R. I	25	12	14	30	n. 51 w.	21	Bismarck, N. Dak	34	6	17	22	n. 10 w.	28
New Haven, Conn	30	16	5	20	n. 47 w.	20	Williston, N. Dak	17	14	7	35	n. 84 w.	28
New London, Conn	22	13	7	33	n. 71 w.	28	*Upper Mississippi Valley.*						
Middle Atlantic States.							St. Paul, Minn	15	21	15	26	s. 61 w.	12
Albany, N. Y	25	15	2	28	n. 69 w.	28	La Crosse, Wis	24	18	10	18	n. 58 w.	10
New York, N. Y	32	13	11	21	n. 28 w.	22	Davenport, Iowa	30	18	17	23	n. 72 w.	6
Harrisburg, Pa	30	8	19	22	n. 14 w.	12	Des Moines, Iowa	21	10	19	24	n. 34 w.	12
Philadelphia, Pa	25	13	11	24	n. 47 w.	18	Keokuk, Iowa	19	18	15	24	n. 84 w.	9
Baltimore, Md	28	12	15	21	n. 21 w.	17	Cairo, Ill	23	26	11	11	s.	3
Washington, D. C	28	19	9	17	n. 42 w.	12	Springfield, Ill	24	19	13	19	n. 50 w.	8
Lynchburg, Va	30	21	13	34	s. 85 w.	11	Hannibal, Mo	24	17	14	21	n. 45 w.	10
Norfolk, Va	26	16	16	17	n. 6 w.	10	St. Louis, Mo	21	24	16	17	s. 18 w.	3
South Atlantic States.							*Missouri Valley.*						
Charlotte, N. C	9	29	15	26	s. 29 w.	23	Columbia, Mo	10	9	11	11	n.	1
Hatteras, N. C	24	19	12	21	n. 61 w.	10	Kansas City, Mo	21	26	18	15	s. 31 e.	6
Kittyhawk, N. C	24	17	20	21	n. 8 w.	7	Springfield, Mo	20	25	18	10	s. 58 e.	9
Raleigh, N. C	20	27	10	22	s. 60 w.	14	Omaha, Nebr	25	17	16	17	n. 7 w.	8
Wilmington, N. C	21	21	16	23	w.	7	Sioux City, Iowa	28	17	12	18	n. 29 w.	12
Charleston, S. C	14	26	13	24	s. 43 w.	16	Pierre, S. Dak	22	12	15	24	n. 42 w.	14
Augusta, Ga	14	30	15	25	s. 59 w.	12	Huron, S. Dak	24	18	15	21	n. 45 w.	8
Savannah, Ga	12	32	13	19	s. 17 w.	21	*Northern Slope.*						
Jacksonville, Fla	14	23	20	20	s.	9	Havre, Mont	21	12	13	29	n. 61 w.	18
Florida Peninsula.							Miles City, Mont	15	17	13	26	s. 81 w.	13
Jupiter, Fla	15	25	21	15	s. 31 e.	12	Helena, Mont	14	21	3	39	s. 79 w.	37
Key West, Fla	15	14	38	7	n. 88 e.	31	Rapid City, S. Dak	24	15	13	22	n. 45 w.	13
Tampa, Fla	23	18	15	21	n. 50 w.	8	Cheyenne, Wyo	26	13	5	34	n. 66 w.	32
Titusville, Fla	16	21	19	18	s. 11 e.	5	Lander, Wyo	18	22	8	31	s. 80 w.	23
Eastern Gulf States.							North Platte, Nebr	22	12	13	29	n. 58 w.	19
Atlanta, Ga	18	16	18	26	n. 76 w.	8	*Middle Slope.*						
Pensacola, Fla	13	26	17	22	s. 21 w.	14	Denver, Colo	29	15	5	30	n. 61 w.	29
Mobile, Ala	19	28	8	16	s. 42 w.	12	Pueblo, Colo	27	14	16	19	n. 13 w.	13
Montgomery, Ala	21	17	22	13	n. 66 e.	10	Concordia, Kans	22	23	11	19	s. 83 w.	8
Meridian, Miss	20	24	16	14	s. 27 e.	4	Dodge City, Kans	26	23	14	13	n. 18 e.	3
Vicksburg, Miss	17	25	24	13	s. 54 e.	14	Wichita, Kans	26	26	13	10	e.	3
New Orleans, La	21	25	21	10	s. 70 e.	12	Oklahoma, Okla	27	23	9	14	n. 51 w.	6
Western Gulf States.							*Southern Slope.*						
Shreveport, La	18	28	21	11	s. 45 e.	14	Abilene, Tex	21	26	13	15	s. 22 w.	5
Fort Smith, Ark	15	17	28	12	s. 83 e.	16	Amarillo, Tex	19	28	8	19	s. 51 w.	14
Little Rock, Ark	22	24	14	12	s. 45 e.	3	*Southern Plateau.*						
Corpus Christi, Tex	16	21	35	5	s. 81 e.	30	El Paso, Tex	20	8	12	37	n. 64 w.	28
Galveston, Tex	14	29	24	11	s. 41 e.	20	Santa Fe, N. Mex	23	19	14	26	n. 72 w.	13
Palestine, Tex	18	23	8	18	s. 34 e.	18	Tucson, Ariz	13	27	17	22	s. 30 w.	15
San Antonio, Tex	21	21	28	6	e.	22	Yuma, Ariz	23	12	18	24	n. 29 w.	12
Ohio Valley and Tennessee.							Independence, Cal	26	17	12	24	n. 53 w.	15
Chattanooga, Tenn	21	25	15	13	s. 27 e.	4	*Middle Plateau.*						
Knoxville, Tenn	25	17	15	26	n. 54 w.	14	Carson City, Nev	15	23	11	24	s. 58 w.	15
Memphis, Tenn	19	22	20	15	s. 59 e.	6	Winnemucca, Nev	18	20	13	26	s. 81 w.	13
Nashville, Tenn	20	23	11	20	s. 72 w.	10	Salt Lake City, Utah	13	24	18	21	s. 15 w.	11
Lexington, Ky	16	24	11	25	s. 60 w.	16	*Northern Plateau.*						
Louisville, Ky	19	25	11	16	s. 40 w.	8	Baker City, Oreg	11	35	19	17	s. 5 e.	24
Indianapolis, Ind	21	21	14	22	w.	8	Idaho Falls, Idaho	23	25	6	23	s. 83 w.	17
Cincinnati, Ohio	20	20	18	23	w.	5	Spokane, Wash	13	27	19	19	s.	14
Columbus, Ohio	22	21	14	23	n. 84 w.	9	Walla Walla, Wash	12	30	10	16	s. 18 w.	19
Pittsburg, Pa	16	19	17	23	s. 63 w.	7	*North Pacific Coast Region.*						
Parkersburg, W. Va	18	20	19	20	s. 27 w.	2	Fort Canby, Wash	19	22	16	18	s. 34 w.	4
Lower Lake Region.							Port Angeles, Wash	12	24	14	23	s. 37 w.	15
Buffalo, N. Y	41	13	14	28	n. 60 w.	16	Seattle, Wash	16	30	14	13	s. 4 e.	14
Oswego, N. Y	24	18	9	23	n. 67 w.	15	Tatoosh Island, Wash	2	22	30	18	s. 31 e.	23
Rochester, N. Y	14	18	13	32	s. 78 w.	19	Portland, Oreg	21	21	13	24	w.	11
Erie, Pa	19	14	15	17	n. 22 w.	5	Roseburg, Oreg	18	18	20	22	w.	2
Cleveland, Ohio	26	18	14	19	n. 32 w.	9	*Middle Pacific Coast Region.*						
Sandusky, Ohio	17	16	22	20	n. 63 w.	2	Eureka, Cal	15	20	21	18	s. 31 e.	6
Toledo, Ohio	17	11	23	24	n. 9 w.	6	Red Bluff, Cal	22	29	9	17	s. 49 w.	11
Detroit, Mich	22	16	20	23	n. 27 w.	7	Sacramento, Cal	14	30	20	19	s. 3 e.	16
Upper Lake Region.							San Francisco, Cal	10	17	6	37	s. 77 w.	32
Alpena, Mich	22	13	10	34	n. 69 w.	26	*South Pacific Coast Region.*						
Grand Haven, Mich	20	13	20	18	n. 16 e.	7	Fresno, Cal	26	9	23	24	n. 87 w.	17
Marquette, Mich	26	15	9	24	n. 54 w.	19	Los Angeles, Cal	15	10	18	29	n. 66 w.	12
Port Huron, Mich	20	21	17	20	s. 72 w.	3	San Diego, Cal	22	9	9	31	n. 60 w.	26
Sault Ste. Marie, Mich	28	13	13	30	n. 50 w.	23	San Luis Obispo, Cal	23	12	5	31	n. 67 w.	28
Chicago, Ill	25	13	19	22	n. 14 w.	12							

TABLE X.—*Thunderstorms and auroras, March, 1895.*

States.	No. of stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total. No.	Total. Days.	
Alabama	52	T.	1						5	1			4	10	9	8	3				2	1									1	2	47	12	T.
		A.																																0	0	A.
Arizona	42	T.																													1			1	1	T.
		A.																																0	0	A.
Arkansas	40	T.										2	1	4	5	3	2				2					8	3	2	1		3	1	37	13	T.
		A.																																0	0	A.
Colorado	85	T.												1						1										1	5		8	4	T.
		A.														1																	1	1	A.
California	216	T.							5	1				2	2								1										11	5	T.
		A.																															0	0	A.
Connecticut	21	T.																								2							2	1	T.
		A.																															4	2	A.
Delaware	7	T.														3										5			1				5	1	T.
		A.																															0	0	A.
Dist. of Columbia	4	T.									1																						1	1	T.
		A.																															0	0	A.
Florida	35	T.		10					1	11			4	7	3	1	1															1	39	9	T.
		A.																															0	0	A.
Georgia	49	T.		1					4				2	7	12	11	6	1	1								2						47	10	T.
		A.																															0	0	A.
Idaho	32	T.																												2			2	1	T.
		A.																		1													1	1	A.
Illinois	67	T.																				1			15	1					1	11	3	32	6	T.
		A.																															0	0	A.
Indiana	46	T.														1	2								4		3						10	4	T.
		A.							1			1	1																		1	1	2	3	3	A.
Indian Territory	7	T.																															4	3	T.
		A.																															0	0	A.
Iowa	95	T.																						1	1						13	4	19	4	T.
		A.	1															4								1							6	3	A.
Kansas	76	T.									2	5					1				5					2		1			5	9	30	8	T.
		A.																						1									1	1	A.
Kentucky	43	T.								9						1	4									3	2					1	20	6	T.
		A.																															0	0	A.
Louisiana	49	T.							7			5		7	3	4					2	1					1				8	7	45	10	T.
		A.																															0	0	A.
Maine	16	T.														1	2	2	1		4	1	1			1							13	8	T.
		A.																								9		2			1	1	18	6	A.
Maryland	38	T.								1	4									2										1			3	2	T.
		A.																															16	2	A.
Massachusetts	84	T.														2		1	1					1		1	15						6	5	T.
		A.																							2	3	1				1	8	15	5	A.
Michigan	79	T.																															18	9	T.
		A.			1				1	1						5	1	6	1	1		1											10	3	A.
Minnesota	68	T.																							1						8	1	40	14	T.
		A.			1		1	1				1	1	6	8	2	2	16	2		2		1			1	1						1	1	A.
Mississippi	49	T.							1			2	3	9	9	14	4				4	1					1				4	4	56	12	T.
		A.																															0	0	A.
Missouri	90	T.												2	2	1					6	1				6	4	13	7		2	29	21	94	12	T.
		A.					1																										1	1	A.
Montana	35	T.													2	1				1				1			1			2			2	1	T.
		A.																															6	5	A.
Nebraska	86	T.							1									1	1							1					5	14	20	3	T.
		A.																															3	3	A.
Nevada	48	T.								1					1															1			3	3	T.
		A.		1				1	1																								1	1	A.
New Hampshire	28	T.														4		2				4		6	2		1				2		22	8	T.
		A.		1							1															1	13						14	2	A.
New Jersey	55	T.																													1		1	1	T.
		A.																															1	1	A.
New Mexico	27	T.																															0	0	T.
		A.																															11	2	A.
New York	88	T.											1			5		3		1	1	1	3	5		4	7				1		21	9	T.
		A.				1			1	8	2				2	1		1								1		1		1	1		20	11	A.
North Carolina	52	T.																															0	0	T.
		A.																															0	0	A.
North Dakota	36	T.												4	6	5	7	1	1			1				3	2				1	2	32	10	T.
		A.													4	5		1							3	8	33	1	11	7	1	1	2	96	16	A.
Ohio	145	T.			1	1				16		1										1											3	3	T.
		A.				1												1				1											10	5	A.
Oklahoma	18	T.										3	1	3																1		2	0	0	T.
		A.																															4	4	A.
Oregon	63	T.											1										1	1				1					0	0	T.
		A.																								1	27		8			1	40	5	A.
Pennsylvania	85	T.									3																						0	0	T.
		A.																										1					1	1	A.
Rhode Island	8	T.																															0	0	T.
		A.																															54	12	A.
South Carolina	39	T.	1						11	2		1		4	7	12	11	2				1									1		0	0	T.
		A.																															6	2	A.
South Dakota	40	T.																								1	1						10	4	T.
		A.							1	4				1	3	1		7				1	4			2	2		2			1	31	4	A.
Tennessee	44	T.															10				1												0	0	T.
		A.																									3	2			4	6	6	37	12	A.
Texas	80	T.			2			1	2		2	3		5	1																			0	0	T.
		A.																															3	2	A.
Utah	40	T.												1																2			3	2	T.
		A.																															0	0	A.
Vermont	15	T.																								1	1						2	2	T.
		A.								1						2		1			1			1	1								7	6	A.
Virginia	43	T.								2	1						1									3			1		2		10	6	T.
		A.						1																									1	1	A.
Washington	50	T.											3								1						1	3	2				10	5	T.
		A.													1			2				1				1							5	4	A.
West Virginia	46	T.								4			1			4	1									8		2	2		1		23	8	T.
		A.																															0	0	A.
Wisconsin	63	T.																							2		1					2	5	3	T.
		A.	1		1		1	1				1			2	3	2	6	3	1	1	1	1		1	1	1		1				29	18	A.
Wyoming	13	T.																													1		1	1	T.
		A.																															0	0	A.
Sums	2,630	T.	2	11	3	2	0	1	38	60	15	22	20	63	59	65	51	4	1	1	23	11	3	2	28	41	147	24	37	20	14	109	97	974	....	T.
		A.	2	2	3	1	3	4	4	2	1	3	3	0	17	36	12	59	10	8	4	14	5	16	4	8	9	0	1	1	1	6	2	241	....	A.

TABLE XI.—*Hourly sunshine as deduced from sunshine recorders, March, 1895.*

Stations.	Instrument.	Percentages for each hour of local mean time ending with the respective hour.																		Monthly summary.			
		A. M.								P. M.								Instrumental record.			Personal estimate.
		5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	Actual.	Possible.	Per cent of possible.	
Atlanta, Ga	T.	.....	78	48	49	58	65	78	81	80	78	69	65	61	49	50	.....	*Hours.* 242.6	*Hours.* 371.9	65	50
Baltimore, Md	T.	.....	50	41	55	66	77	80	84	79	77	77	73	75	52	61	.....	360.3	371.6	70	53
Bismarck, N. Dak	P.	.....	25	48	53	67	74	70	60	57	59	60	50	47	46	41	.....	312.0	370.0	57	58
Boston, Mass	T.	.....	88	55	53	58	64	67	65	66	62	62	50	46	49	38	.....	314.9	371.3	58	43
Buffalo, N. Y	T.	.....	17	20	33	55	63	67	73	75	75	70	57	43	25	31	.....	205.1	370.4	55	40
Chicago, Ill	T.	.....	67	51	55	66	69	71	75	78	78	77	74	65	56	53	.....	253.8	371.3	68	60
Cincinnati, Ohio	P.	.....	75	49	47	56	57	62	65	65	66	61	55	51	47	65	.....	211.6	371.3	57	48
Cleveland, Ohio	P.	.....	42	35	26	35	38	40	42	39	41	51	49	45	35	48	.....	148.6	371.1	40	44
Columbus, Ohio	T.	.....	58	46	47	55	57	64	65	66	70	68	59	51	29	11	.....	307.7	372.0	56	40
Denver, Colo	P.	.....	50	68	65	70	74	81	79	73	78	79	72	70	56	41	.....	366.1	371.1	72	59
Des Moines, Iowa	T.	.....	67	67	65	65	76	74	71	73	75	67	62	44	39	43	.....	230.3	371.7	64	49
Detroit, Mich	T.	.....	0	11	35	58	71	71	77	77	78	67	64	54	40	38	.....	216.8	369.3	59	46
Dodge City, Kans	P.	.....	45	68	76	74	77	80	73	74	78	80	74	65	45	33	.....	266.5	371.8	72	61
Eastport, Me	P.	.....	67	59	54	58	55	58	51	45	49	52	46	45	43	47	.....	189.1	370.6	51	37
Galveston, Tex	P.	.....	43	26	36	51	53	58	66	61	67	66	49	45	38	43	.....	192.2	373.0	52	55
Helena, Mont	P.	.....	38	49	57	65	73	73	70	69	69	60	59	53	43	35	.....	227.7	370.5	61	57
Kansas City, Mo	P.	.....	42	60	69	75	75	72	71	68	67	62	59	52	47	48	.....	239.9	371.5	65	54
Key West, Fla	T.	.....	87	74	73	81	90	95	98	98	90	87	82	79	61	53	.....	312.0	373.7	83	65
Little Rock, Ark	T.	.....	50	39	39	43	49	58	58	58	61	58	55	48	32	37	.....	192.2	371.9	52	45
Louisville, Ky	T.	.....	75	51	50	54	58	66	69	69	61	58	54	49	46	65	.....	212.8	371.6	57	46
Marquette, Mich	T.	.....	2	37	54	79	100	100	100	98	97	99	98	78	54	22	.....	304.3	370.3	82	44
Memphis, Tenn	T.	.....	60	37	41	48	47	52	52	55	55	53	47	45	47	54	.....	180.3	371.7	49	47
New Haven, Conn	P.	.....	67	43	49	62	68	70	80	77	69	61	54	50	42	50	.....	225.2	371.4	61	52
New Orleans, La	T.	.....	43	21	30	43	54	61	68	75	75	72	59	49	36	33	.....	200.6	372.8	54	54
New York, N. Y	T.	.....	58	33	44	64	72	77	81	82	81	72	59	45	30	39	.....	228.9	371.8	62	44
Norfolk, Va	T.	.....	18	39	50	60	66	72	76	77	74	66	62	57	33	27	.....	225.4	372.2	61	55
Philadelphia, Pa	T.	.....	75	50	51	52	59	58	67	66	62	59	61	56	45	50	.....	213.2	371.5	57	46
Portland, Me	P.	.....	62	44	55	66	71	81	88	86	83	74	67	60	41	33	.....	251.9	370.3	68	42
Portland, Oreg	P.	.....	0	10	21	29	56	56	46	53	57	62	58	52	44	24	.....	168.9	371.0	46	46
Do	T.	.....	0	9	21	32	54	60	62	66	64	60	55	49	42	24	.....	178.3	371.0	48	46
Rochester, N. Y	T.	.....	50	45	44	57	61	65	65	70	68	65	56	46	43	32	.....	211.9	370.2	57	55
St. Louis, Mo	T.	.....	42	46	53	62	72	77	77	79	80	76	64	62	45	38	15	256.7	371.7	69	55
Salt Lake City, Utah	T.	.....	25	38	45	62	73	78	88	80	76	64	62	45	38	15	.....	228.6	370.7	62	39
Do	P.	.....	25	32	65	69	70	76	69	63	70	64	58	48	40	15	.....	227.7	370.7	61	39
San Diego, Cal	P.	.....	67	23	35	46	58	70	75	78	79	74	70	57	48	48	.....	221.0	371.8	59	62
San Francisco, Cal	T.	.....	0	17	38	53	75	79	87	91	91	90	83	72	42	0	.....	252.5	371.8	68	49
Santa Fe, N. Mex	P.	.....	40	61	74	81	86	88	86	82	77	71	76	65	58	48	.....	279.7	372.1	75	57
Savannah, Ga	T.	.....	22	41	52	53	59	62	64	69	66	62	63	59	41	48	.....	214.3	372.4	58	54
Seattle, Wash	P.	.....	0	15	16	24	51	63	70	73	65	54	52	41	26	0	.....	168.7	369.6	46	35
Spokane, Wash	P.	.....	47	40	50	62	62	59	61	54	58	60	56	49	31	4	.....	196.6	370.0	53	35
Tucson, Ariz	T.	.....	89	78	78	80	82	80	76	83	86	89	84	81	70	65	.....	298.5	372.6	80	64
Vicksburg, Miss	T.	.....	56	36	40	53	65	70	71	71	77	79	72	66	54	40	.....	254.1	372.2	68	60
Washington, D. C	T.	.....	33	33	36	52	67	71	69	71	70	73	68	54	47	52	.....	220.4	371.9	59	50
Wilmington, N. C	T.	.....	40	35	42	54	58	65	66	64	60	56	53	45	32	24	.....	195.7	372.4	53	53

TABLE XII.—*Hourly precipitation, March, 1895.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Total.
Atlanta, Ga	0.38	0.60	0.14	0.08	0.15	0.71	0.29	0.30	0.72	0.28	0.25	0.45	0.44	0.22	0.06	0.10	0.20	0.24	0.35	0.41	0.14	0.31	0.12	0.32	7.36
Baltimore, Md	0.05	0.08	0.15	0.13	0.08	0.06	0.09	0.10	0.08	0.10	0.11	0.13	0.18	0.27	0.24	0.19	0.12	0.14	0.14	0.07	0.02	0.01	0.01	0.08	2.94
Boston, Mass	0.10	0.08	0.15	0.26	0.32	0.21	0.05	0.08	0.05	0.08	0.07	0.06	0.05	0.07	0.05	0.19	0.15	0.10	0.05	0.08	0.11	0.16	0 15	0.08	2.75
Buffalo, N. Y	0.06	0.03	0.06	0.13	0.20	0.07	0.07	0.08	0.06	0.03	0.06	0.05	0.08	0.02	0.08	0.07	0.05	0.11	0.07	0.07	0.02	0.03	0.03	0.08	1.63
Cincinnati, Ohio *	0.13	0.11	0.10	0.10	0.10	0.08	0.13	0.11	0.09	0.08	0.05	0.07	0.03	0.02	0.04	0.02	0.01	0.01	T.	0.01	0.02	0.03	0.03	0.10	1.51
Cleveland, Ohio *	0.02	0.02	0.02	0.02	0.06	0.05	0.10	0.05	0.07	0.15	0.03	0.05	0.09	0.10	0.12	0.08	0.02	0.02	0.04	0.02	0.02	0.01	0.02	0.02	1.24
Detroit, Mich. *	0.08	0.08	0.07	0.11	0.12	0.04	0.06	0.06	0.10	0.15	0.15	0.16	0.11	0.05	0.02	0.02	0.06	T.	T.	T.	0.04	0.07	0.07	0.07	1.69
Dodge City, Kans. *	T.	T.	T.	T.	T.	T.	T.	T.	0.25	0.02	0.11	0.15	0.15	0.06	0.21	0.11	0.12	0.06	0.01	0.02	0.01	0.01	T.	T.	1.31
Eastport, Me. *	0.02	0.06	0.10	0.09	0.10	0.10	0.11	0.17	0.19	0.24	0.27	0.22	0.23	0.22	0.25	0.20	0.05	0.02	0.02	0.01	0.06	0.11	0.04	0.01	2.90
Galveston, Tex	T.	T.	0.01	0.13	0.52	0.23	0.34	0.03	0.07	0.07	0.07	0.02	0.03	0.22	0.10	0.18	0.07	0.16	0.08	0.13	0.05	0.09	T.	T.	2.84
Indianapolis, Ind. *	0.10	0.05	0.03	0.04	0.06	0.01	0.07	0.04	T.	0.02	0.06	0.06	0.03	0.05	0.17	0.04	0.06	0.04	0.05	0.02	T.	T.	0.12	0.08	1.20
Jacksonville, Fla	0.00	0.00	T.	0.06	0.00	0.04	0.75	0.19	0.11	0.08	0.38	0.12	0.05	T.	0.02	0.04	0.86	0.36	0.54	0.01	0.01	0.01	T.	0.00	3.63
Jupiter, Fla	0.01	0.00	0.00	0.00	0.00	0.00	0.00	T.	0.00	0.00	0.00	0.00	0.07	0.07	0.10	0.70	0.07	0.12	0.02	0.05	0.01	0.03	0.04	0.30	1.59
Key West, Fla	0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T.	T.	0.64	0.34	0.30	0.03	0.02	0.02	T.	0.00	0.00	0.00	1.34
Little Rock, Ark	0.50	0.53	0.85	0.61	0.34	0.16	0.18	0.25	0.08	0.07	0.32	0.26	0.25	0.16	0.07	0.42	0.46	0.65	0.45	0.10	0.30	0.12	0.24	0.43	7.65
Louisville, Ky. *	0.10	0.10	0.14	0.16	0.19	0.16	0.10	0.13	0.14	0.10	0.08	0.05	0.07	0.03	0.06	0.05	0.07	0.05	0.08	0.10	T.	0.05	0.06	0.06	2.10
Memphis, Tenn	0.18	0.51	0.54	0.66	1.02	0.94	0.56	0.32	0.30	0.14	0.11	0.20	0.15	0.11	0.11	0.40	0.55	0.05	0.02	0.09	0.02	0.04	0.02	0.07	7.01
Nantucket, Mass. *	0.19	0.26	0.29	0.30	0.32	0.23	0.11	0.25	0.20	0.18	0.09	0.06	0.09	0.17	0.11	0.16	0.11	0.08	0.04	0.14	0.17	0.49	0.26	0.12	4.42
Nashville, Tenn	0.53	0.05	0.08	0.02	0.01	0.08	0.72	0.79	0.41	0.15	0.19	0.28	0.11	0.14	0.16	0.17	0.23	0.09	0.12	0.28	0.22	0.09	0.07	0.15	5.09
Norfolk, Va	0.24	0.38	0.30	0.32	0.14	0.07	0.32	0.11	0.15	0.29	0.13	0.23	0.31	0.28	0.31	0.31	0.21	0.09	0.11	0.23	0.22	0.11	0.12	0.13	5.11
Philadelphia, Pa. *	0.09	0.08	0.07	0.07	0.14	0.26	0.12	0.08	0.12	0.11	0.09	0.09	0.06	0.05	0.09	0.16	0.13	0.09	0.15	0.16	0.16	0.15	0.02	0.08	2.57
Portland, Me. *	0.20	0.19	0.18	0.24	0.33	0.30	0.26	0.24	0.23	0.09	0.10	0.05	0.04	0.02	0.08	0.11	0.09	0.08	0.05	0.07	0.07	0.12	0.14	0.19	3.37
Portland, Oreg	0.11	0.16	0.08	0.13	0.18	0.11	0.18	0.21	0.19	0.28	0.22	0.07	0.01	0.04	0.07	0.05	0.04	0.17	0.17	0.12	0.17	0.13	0.08	0.14	3.11
St. Paul, Minn	0.05	0.01	0.01	0.02	0.06	0.02	0.06	0.03	0.02	0.02	0.01	0.04	0.02	T.	0.03	0.01	T.	0.01	0.00	0.11	0.12	0.05	0.04	0.06	0.80
San Diego, Cal	0.12	0.15	0.01	0.02	0.08	0.08	0.04	0.03	0.02	T.	T.	0.03	0.00	0.00	0.00	0.00	0.10	0.03	0.07	0.10	0.12	0.20	0.10	0.09	1.43
San Francisco, Cal	0.26	0.03	0.01	0.10	0.05	0.17	0.32	0.23	0.19	0.01	0.03	0.04	0.01	0.01	0.02	0.01	0.02	0.07	0.04	0.01	0.02	0.06	0.07	0.04	1.84
Savannah, Ga	0.33	0.38	0.35	0.11	0.20	0.14	0.12	0.09	0.04	0.08	0.16	0.41	0.58	0.49	0.20	0.15	0.37	0.08	0.06	0.05	0.25	0.02	0.34	0.34	5.31
Seattle, Wash. *	0.18	0.16	0.13	0.07	0.11	0.08	0.09	0.11	0.16	0.11	0.21	0.04	T.	0.01	T.	0.01	0.10	0.17	0.10	0.14	0.16	0.22	0.43	0.37	3.58
Vicksburg, Miss	0.27	0.07	0.06	0.08	0.11	0.04	0.07	0.07	0.03	0.13	0.20	0.86	0.42	0.31	0.17	0.14	0.08	0.10	0.11	0.13	0.54	0.95	0.33	0.75	6.02
Washington, D. C	0.05	0.06	0.26	0.15	0.10	0.13	0.11	0.09	0.04	0.15	0.17	0.12	0.15	0.08	0.12	0.11	0.12	0.16	0.08	0.08	0.08	0.01	0.07	0.07	2.51
Wilmington, N. C	0.03	0.32	0.09	0.01	0.01	T.	0.10	0.27	0.14	0.02	0.02	0.04	0.15	0.25	0.31	0.31	0.05	0.11	0.09	0.23	0.14	0.12	0.10	0.03	2.94

* Record incomplete.

TABLE XIII.—*Excessive precipitation, by stations, for March*, 1895.

Stations.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Alabama.	*Inches.*	*Inches.*		*Ins.*	*h. m.*	
Brewton		2.50	14			
Carrollton				2.27	2 00	19
Eufaula *a*	10.39	2.60	10–11	2.36	2 00	7
Do		3.47	12–13			
Fort Deposit	10.98	3.70	13			
Highland Home		3.13	13–14			
Mobile	10.47	4.10	30–31	1.25	1 00	14
Montgomery		2.75	13–14	1.25	1 00	14
Oxanna		3.30	15–16			
Scottsboro		2.52	19–20			
Starlington	13.12	3.50	12			
Union Springs	10.90	2.50	11			
Do		2.60	14			
Valley Head		2.90	19–20			
Arkansas.						
Kirby		3.25	5–6			
California.						
Bowmans Dam		4.00	27			
Chino		2.87	27			
Colegrove		2.71	27–28			
Edmanton	10.59					
Fordyce Dam	10.61	4.00	27			
Middletown		2.72	21			
Pasadena		2.65	27–28			
Upper Mattole	10.20	3.20	19–20			
Engineers Quarters *		3.76	27			
Morses House *	12.54					
Grass Valley *	10.13	5.89	27–28			
Green Valley *		5.01	27–28			
Deep Creek *		4.54	27–28			
Florida.						
Pensacola		3.72	31			
Georgia.						
Athens *a*		2.52	1			
Augusta		2.56	7			
Columbus	10.60	4.46	13–14			
Covington		3.33	15–16			
Hephzibah		2.70	7			
Do		2.50	15			
Marshallville	10.33	3.12	8			
Do		2.50	15			
Piscola		2.75	7–8			
Resaca		2.74	19–20			
Reynolds	10.36	2.50	7–8			
Do		2.95	14			
Whitesburg		2.94	1–2			
Do		3.97	15–16			
Louisiana.						
Alexandria				2.00	1 00	2
Cameron		2.70	1			
Covington		2.70	30–31			
Emilie		4.04	30–31	3.33	3 00	30
Lawrence		2.50	30			
Paincourtville		2.76	30			
Rayne		2.64	1			
Wallace		2.56	30			
Mississippi.						
Aberdeen		3.10	30			
Bay St. Louis		3.26	30			
Biloxi		3.60	29–30			
Brookhaven				1.84	1 30	14
Meridian				1.12	1 00	30
Moss Point		3.00	12			
Do		4.45	30–31			
Natchez		3.00	1			
Missouri.						
McCune		3.00	30			
Nevada		2.78	19			
Springfield				1.00	0 52	30
North Carolina.						
Falkland		2.61	30			
Pantego		2.60	30			
Selma		2.60	30			
Skyuka		5.32	2			
Oregon.						
Bandon	12.10	2.77	19			
Do		3.06	28			
Gardiner	10.35	2.49	28			
Glenora	11.54					

TABLE XIII.—*Excessive precipitation*—Continued.

Stations.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Oregon—Cont'd.	*Inches.*	*Inches.*		*Ins.*	*h. m.*	
Langlois	13.07	3.10	19			
Do		2.64	23			
Nehalem	11.54					
Newport		3.28	21			
Tennessee.						
Jackson		2.70	19			
Mount Carmel		2.81	19–20			
Rugby		3.12	19–20			
Texas.						
Wichita Falls				1.23	1 00	10
Washington.						
East Clallam	12.40	2.52	26–27			
Neah Bay	13.09	4.08	19			
Tatoosh Island	10.43	2.50	19			
Wyoming.						
Fort Washakie		3.20	30			

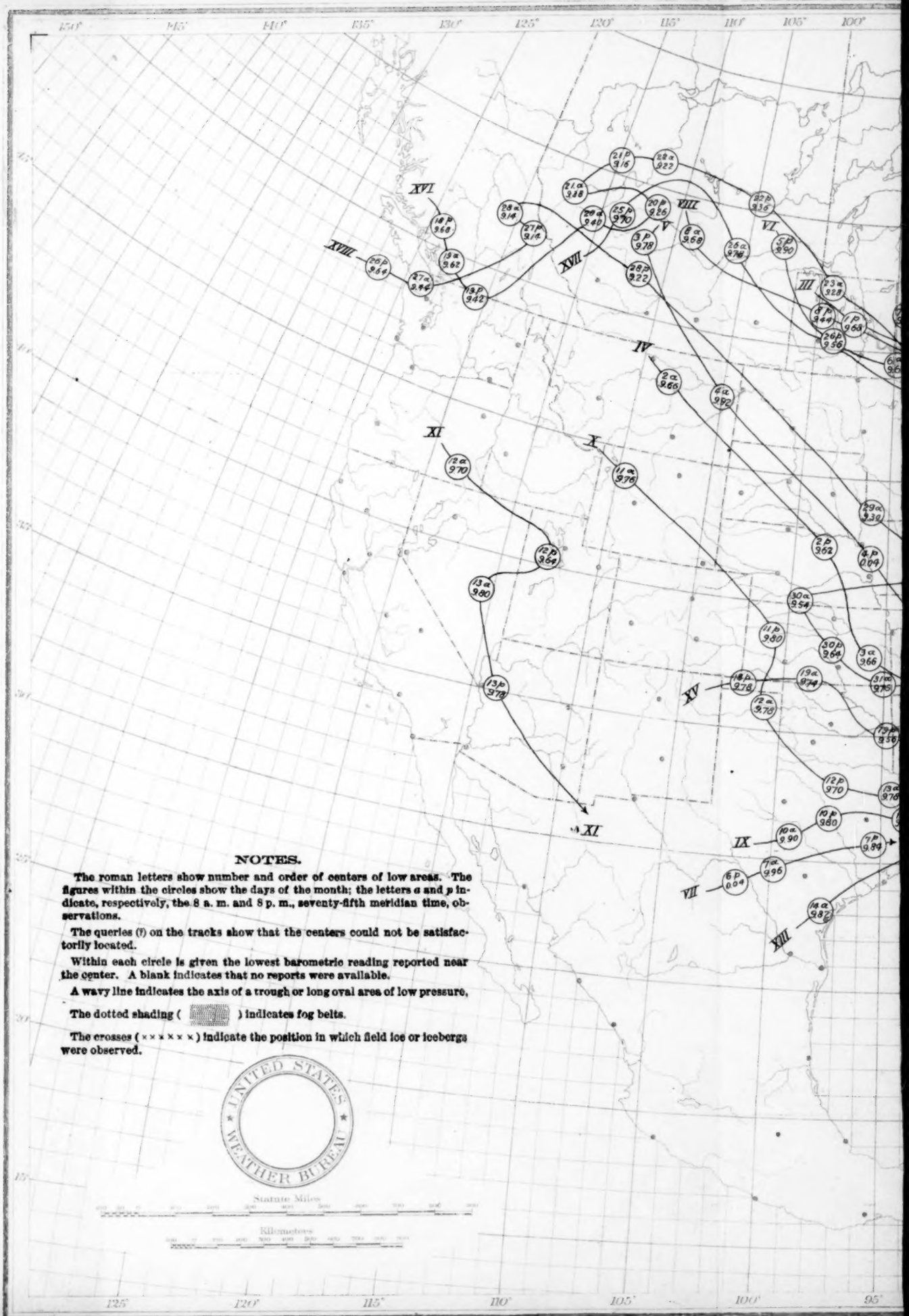
* Stations of the Arrowhead Reservoir Co.

TABLE XIV.—*Maximum rainfall in one hour or less, March*, 1895.

Stations.	Maximum rainfall in—					
	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	Inch.		*Inch.*		*Inch.*	
Atlanta, Ga.	0.26	20	0.32	20	0.63	20
Baltimore, Md.	0.02	13	0.04	13	0.12	13
Bismarck, N. Dak.*						
Boston, Mass.	0.02	14	0.04	14	0.19	14
Buffalo, N. Y.	0.03	25	0.04	25	0.14	25
Chicago, Ill.*						
Cincinnati, Ohio*	0.02	7	0.04	7	0.09	15
Cleveland, Ohio*	0.01	1,13	0.02	1,13	0.09	1
Denver, Colo.*						
Detroit, Mich.*						
Dodge City, Kans.*	0.06	19	0.09	19	0.24	19
Duluth, Minn.*						
Eastport, Me.*	0.03	14	0.05	14	0.23	14
Galveston, Tex.	0.19	30	0.32	30	0.51	30
Indianapolis, Ind.*	0.03	31	0.05	31	0.13	31
Jacksonville, Fla.	0.45	12	0.53	12	0.73	2
Jupiter, Fla.	0.18	2	0.27	2	0.78	2
Kansas City, Mo.*						
Key West, Fla.	0.13	1	0.25	1	0.64	1
Little Rock, Ark.	0.15	7,30	0.25	7	0.66	30
Louisville, Ky.*						
Marquette, Mich.*						
Memphis, Tenn.	0.17	15	0.26	15	0.68	19
Milwaukee, Wis.*						
Nantucket, Mass.*	0.11	7	0.14	7	0.39	7
Nashville, Tenn.*	0.10	20	0.17	20	0.52	20
New Orleans, La.						
New York, N. Y.*						
Norfolk, Va.	0.07	16	0.11	16	0.28	16
Omaha, Nebr.*						
Philadelphia, Pa.*	0.02	13	0.04	13	0.15	13
Portland, Me.*	0.02	2,7	0.04	2,7	0.10	2
Portland, Oreg.	0.02	21,27	0.04	21,27	0.15	21
Rochester, N. Y.*						
St. Louis, Mo.*						
St. Paul, Minn.	0.05	30	0.08	30	0.18	30
Salt Lake City, Utah*						
San Diego, Cal.	0.08	13	0.11	13	0.17	13
San Francisco, Cal.	0.07	20,28	0.12	20,28	0.22	20
Savannah, Ga.	0.22	13	0.27	12,13	0.54	11
Seattle, Wash.*	0.05	27	0.08	27	0.30	27
Vicksburg, Miss.	0.20	19	0.32	19	0.85	19
Washington, D. C.	0.03	8	0.05	8	0.17	8
Wilmington, N. C.	0.11	8	0.15	8	0.29	8

* Record incomplete.

Chart I. Tracks o



NOTES.

The roman letters show number and order of centers of low areas. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the 8 a. m. and 8 p. m., seventy-fifth meridian time, observations.

The queries (?) on the tracks show that the centers could not be satisfactorily located.

Within each circle is given the lowest barometric reading reported near the center. A blank indicates that no reports were available.

A wavy line indicates the axis of a trough or long oval area of low pressure.

The dotted shading ( ) indicates fog belts.

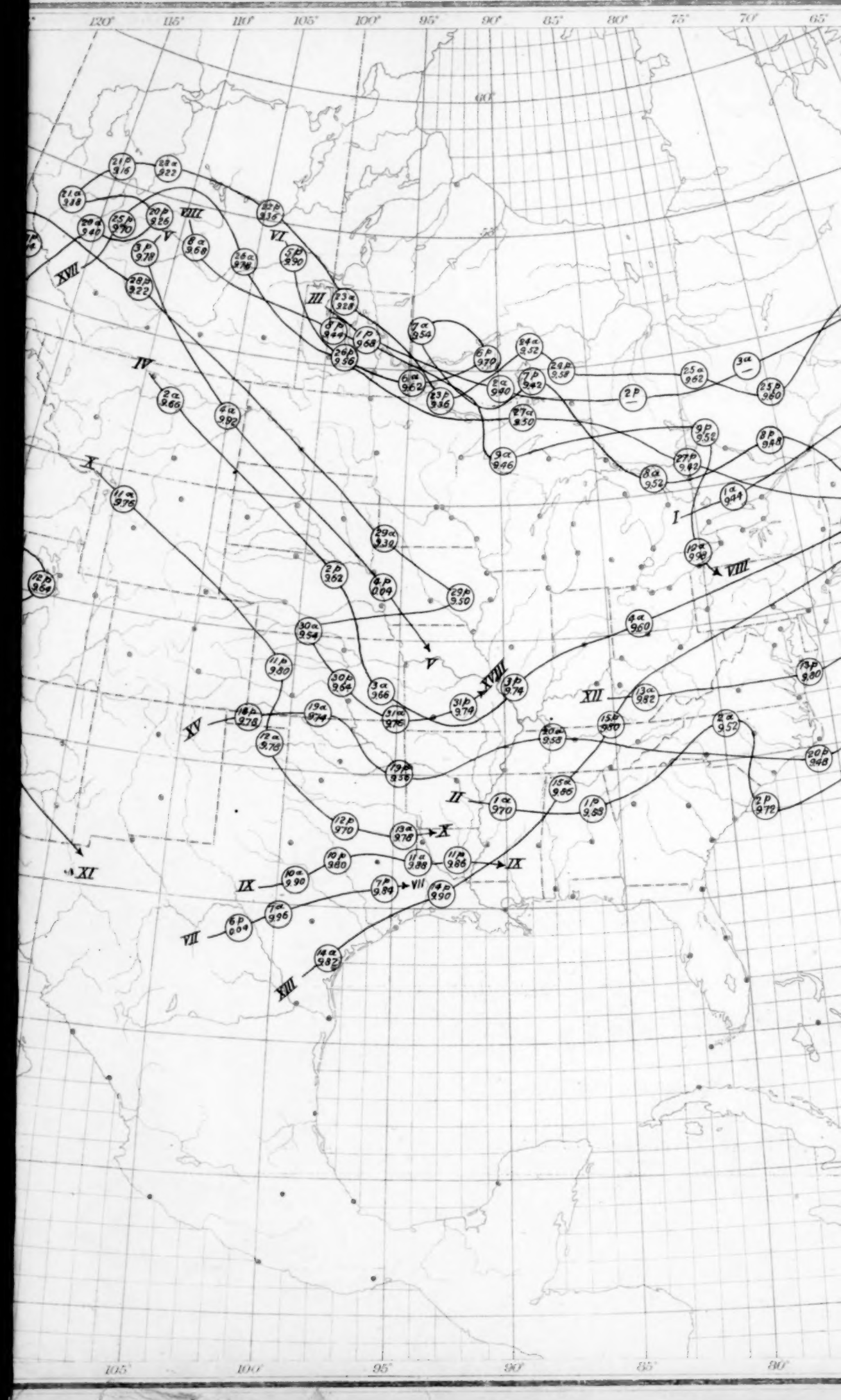
The crosses (× × × × ×) indicate the position in which field ice or icebergs were observed.

UNITED STATES WEATHER BUREAU

Statute Miles

Kilometers

Chart I. Tracks of Centers of Low Areas. March, 1895.



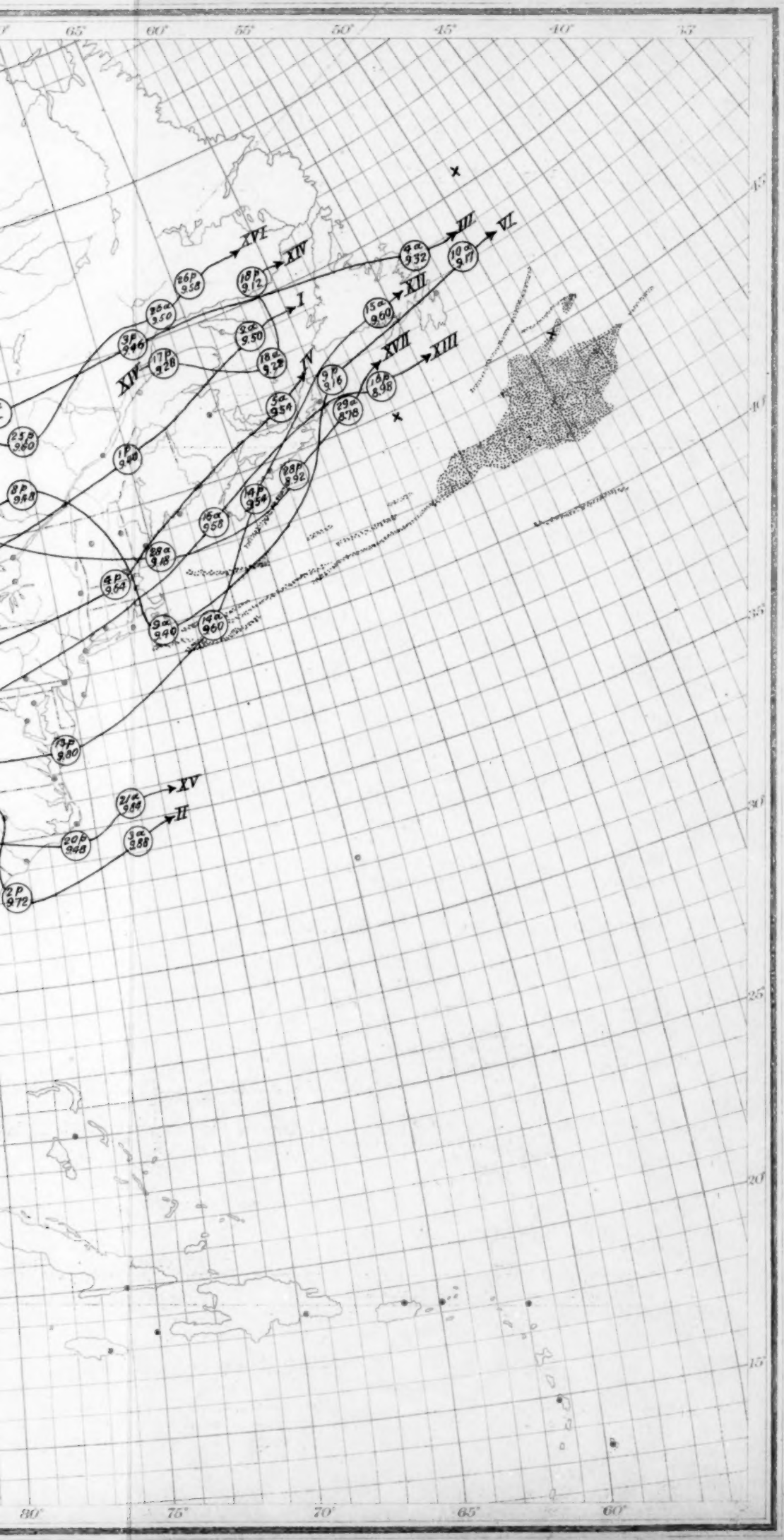

65°
60°
55°
50°
45°
40°
35°
45°
40°
35°
30°
25°
20°
15°
80°
75°
70°
65°
60°
XVI
XIV
I
XII
III
VI
XIV
IV
XVII
XIII
XV
II
26P 958
18P 912
9a 932
10a 911
25a 950
2a 950
15a 960
3P 946
17P 928
18a 932
9P 916
16P 898
5a 954
29a 878
25P 960
1P 940
8P 948
28P 892
14P 954
16a 958
28a 948
4P 964
19a 940
14a 960
13P 980
24a 948
20P 948
3a 988
2P 972

Chart II. Isobars, Isotherms, and Resultant Winds. March, 1895.

Chart II. Isobars, Isotherms, and Resultant Winds. March, 1895.

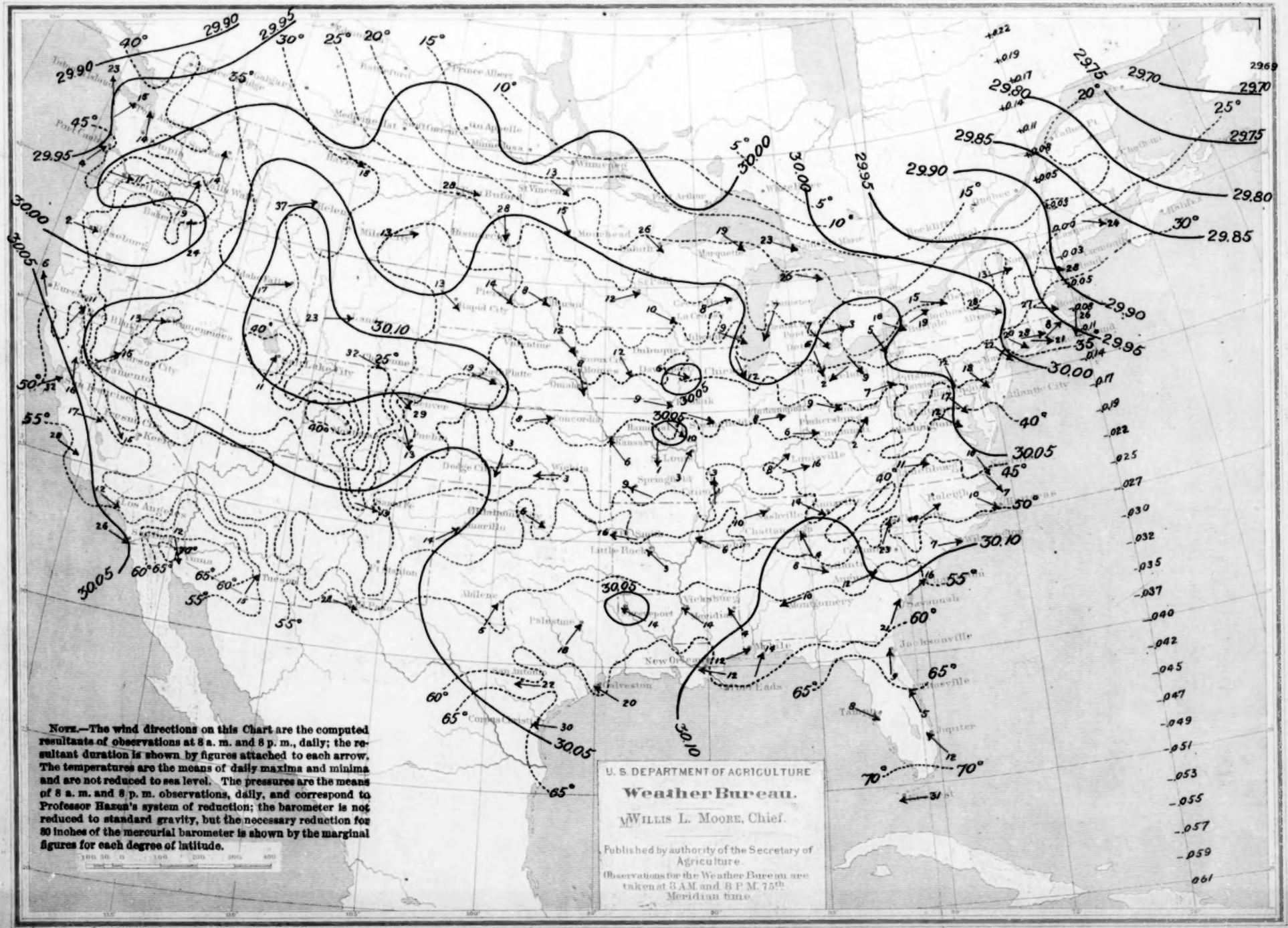

NOTE.—The wind directions on this Chart are the computed resultants of observations at 8 a. m. and 8 p. m., daily; the resultant duration is shown by figures attached to each arrow. The temperatures are the means of daily maxima and minima and are not reduced to sea level. The pressures are the means of 8 a. m. and 8 p. m. observations, daily, and correspond to Professor Hazen's system of reduction; the barometer is not reduced to standard gravity, but the necessary reduction for 30 inches of the mercurial barometer is shown by the marginal figures for each degree of latitude.
U. S. DEPARTMENT OF AGRICULTURE
Weather Bureau.
WILLIS L. MOORE, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart III. Total Precipitation. March, 1895.

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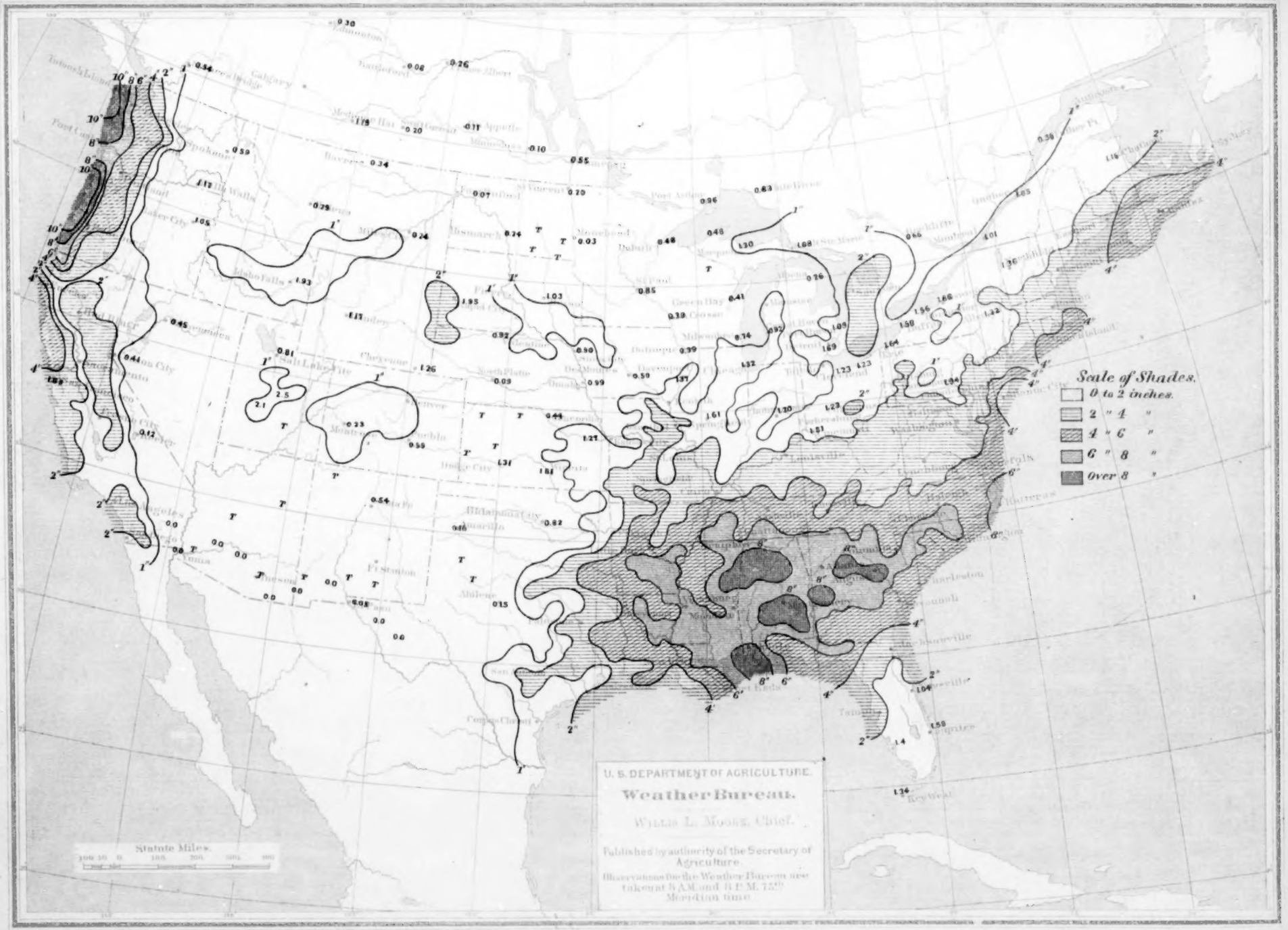

Scale of Shades.
0 to 2 inches.
2 " 4 "
4 " 6 "
6 " 8 "
Over 8 "
Statute Miles.
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
Willis L. Moore, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 5 A.M. and 5 P.M. 75th Meridian time.

Chart IV. Tracks of Centers of High Areas. March, 1895.

Chart IV. Tracks of Centers of High Areas. March, 1895.

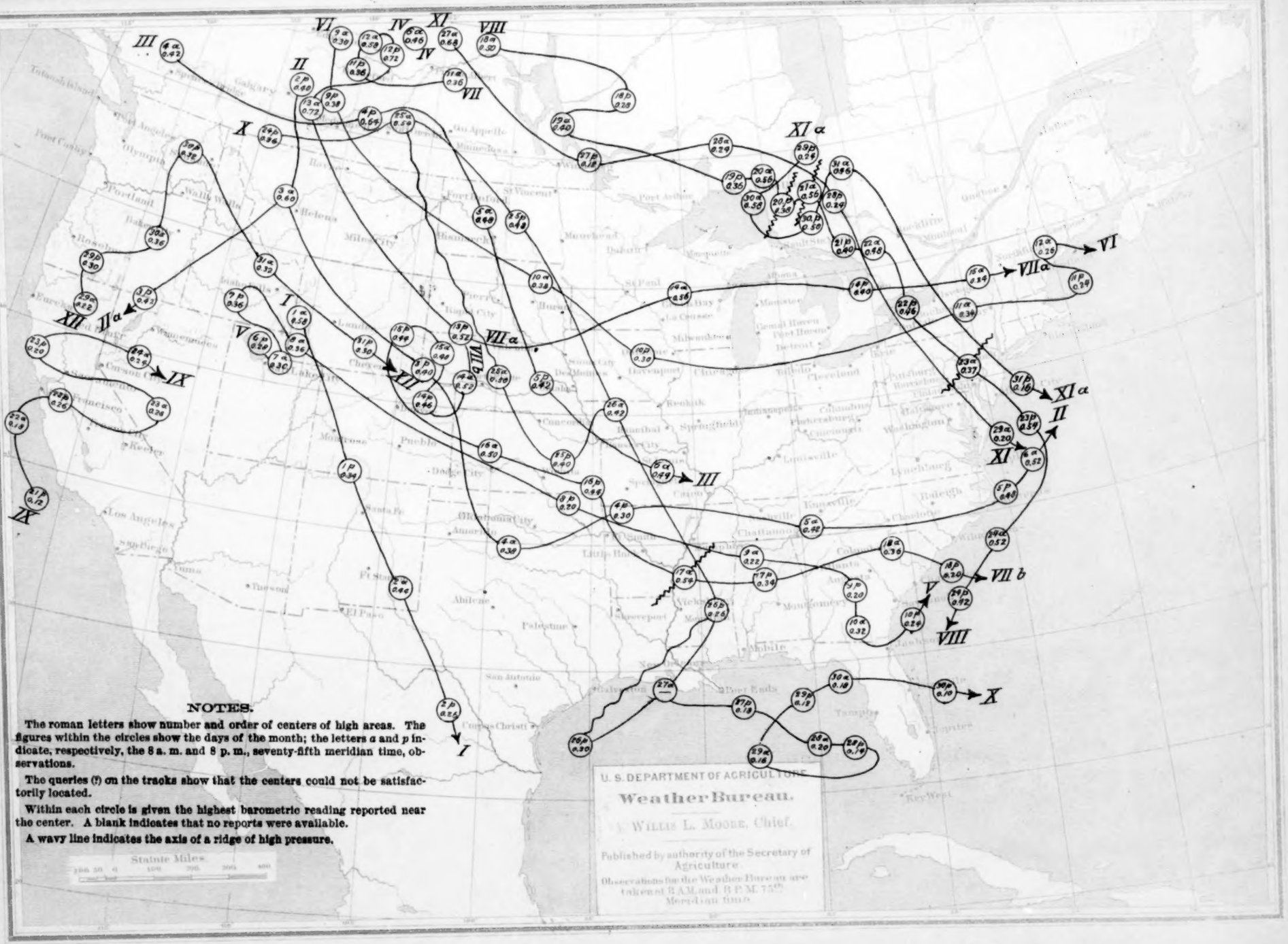
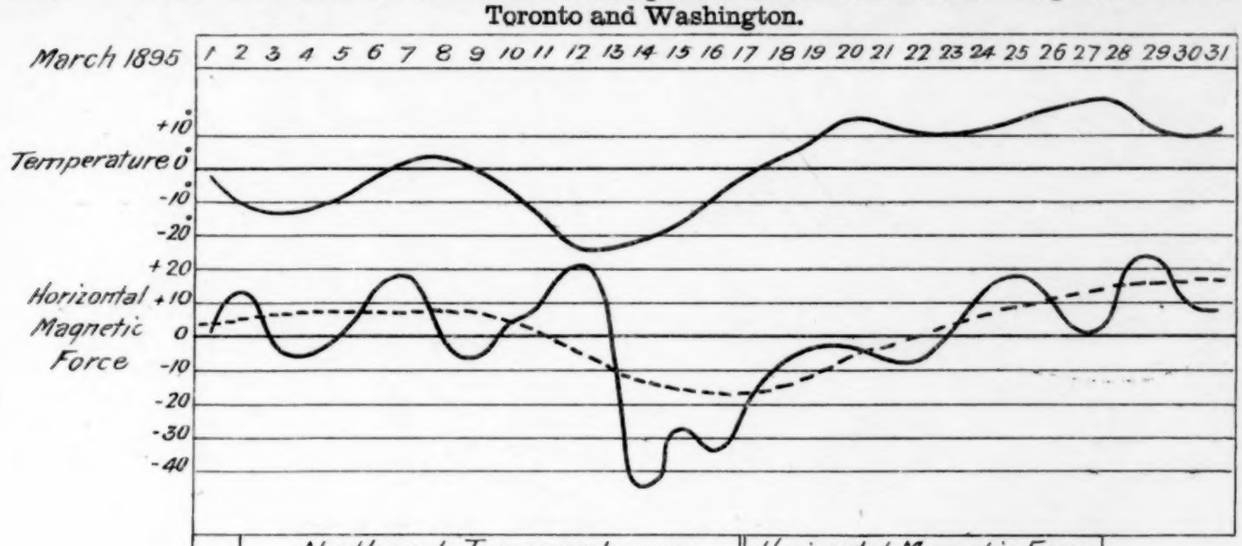

NOTES.
The roman letters show number and order of centers of high areas. The figures within the circles show the days of the month; the letters a and p indicate, respectively, the 8 a. m. and 8 p. m., seventy-fifth meridian time, observations.
The queries (?) on the tracks show that the centers could not be satisfactorily located.
Within each circle is given the highest barometric reading reported near the center. A blank indicates that no reports were available.
A wavy line indicates the axis of a ridge of high pressure.
Statute Miles
U. S. DEPARTMENT OF AGRICULTURE
Weather Bureau.
Willis L. Moore, Chief.
Published by authority of the Secretary of Agriculture
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

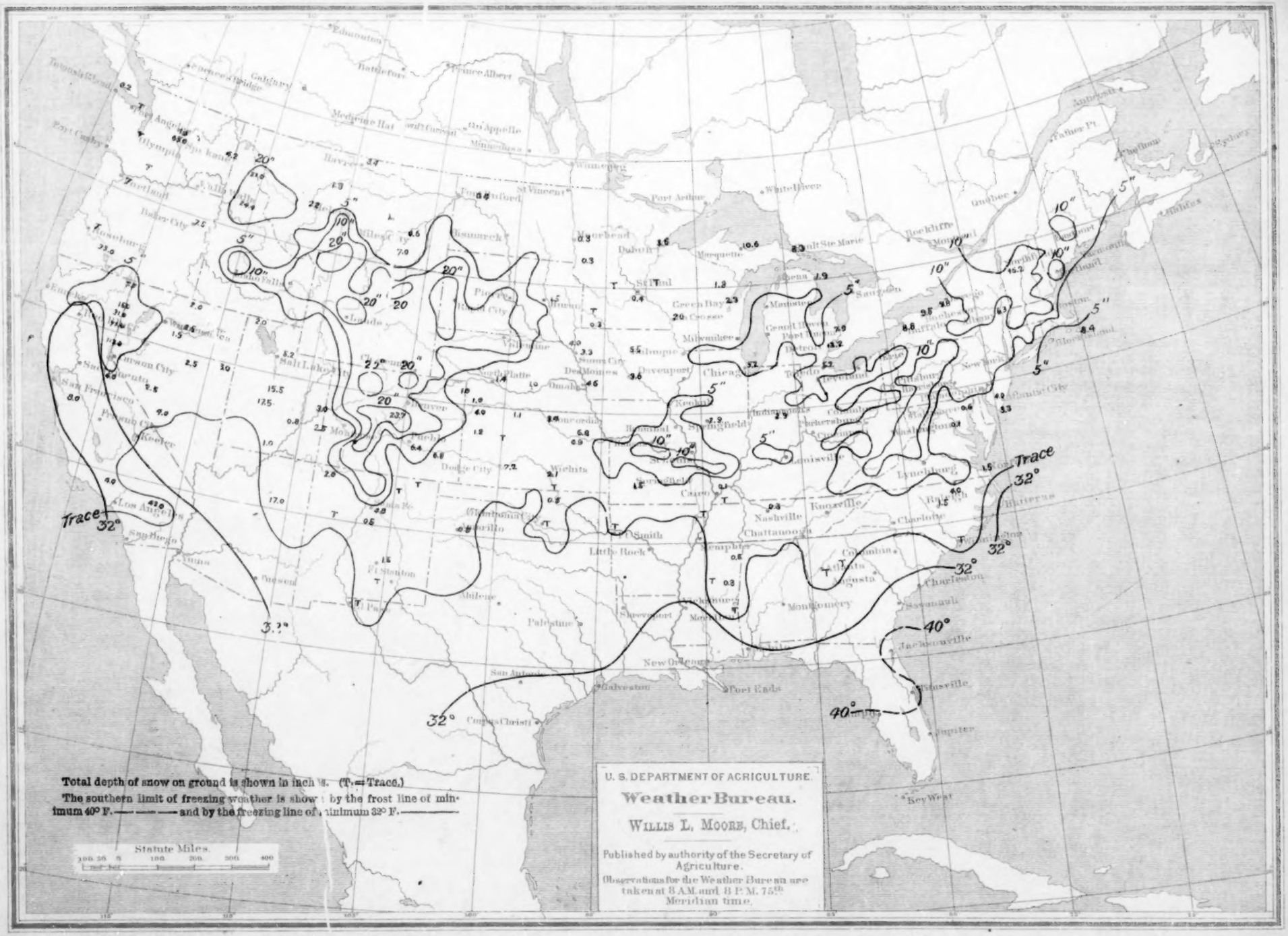
Chart V. Relative variations of the Northwest Temperatures and the Horizontal Magnetic Force at Toronto and Washington.



March 1895	Northwest Temperatures							Horizontal Magnetic Force				
				Variations						Variations		
	Calgary	Salt Lake Cy.	Williston	Calgary	Salt Lake Cy.	Williston	Means +2	Toronto	Washington	Toronto	Washington	Means -2
1	17	31	26	-4	-10	+4	-1	435.2	55.1	-7	+12	+1
2	6	30	9	-15	-11	-13	-11	436.4	56.0	+5	+21	+11
3	5	19	14	-16	-22	-8	-13	435.0	54.6	-9	+7	-3
4	8	26	12	-13	-15	-10	-11	434.4	55.4	-15	+15	-2
5	11	20	21	-10	-21	-1	-9	435.3	55.3	-6	+14	+2
6	17	31	26	-4	-10	+4	-1	436.7	56.2	+8	+23	+14
7	24	35	23	+3	-6	+1	+1	437.3	56.4	+14	+25	+18
8	25	40	26	+4	-1	+4	+4	434.6	55.4	-13	+15	-1
9	17	33	18	-4	-8	-4	-3	434.8	54.3	-11	+4	-6
10	7	29	19	-14	-12	-3	-8	435.9	55.3	0	+14	+5
11	-3	28	9	-24	-13	-13	-15	435.8	56.1	-1	+22	+9
12	-8	14	-2	-29	-27	-24	-25	437.0	57.3	+11	+34	+21
13	-5	5	6	-26	-36	-16	-24	435.5	53.2	-4	-7	-8
14	2	6	10	-19	-35	-12	-20	433.2	48.1	-27	-58	-45
15	2	11	17	-19	-30	-5	-16	433.3	51.0	-26	-29	-29
16	7	21	27	-14	-20	+5	-8	432.1	51.5	-38	-24	-33
17	15	29	27	-6	-12	+5	-2	433.8	52.6	-21	-13	-19
18	19	32	34	-2	-9	+12	+2	434.9	54.2	-10	+3	-6
19	26	36	37	+5	-5	+15	+7	435.0	54.5	-9	+6	-4
20	35	45	43	+14	+4	+21	+15	435.7	53.8	-2	-1	-4
21	36	39	42	+15	-2	+20	+13	435.1	53.9	-8	0	-6
22	34	35	41	+13	-6	+19	+11	435.1	53.8	-8	-1	-7
23	31	36	40	+10	-5	+18	+10	436.4	54.4	+5	+5	+3
24	29	41	37	+8	0	+15	+10	437.1	55.6	+12	+17	+13
25	29	45	46	+8	+4	+24	+14	437.1	56.4	+12	+25	+16
26	33	54	45	+12	+13	+23	+18	436.3	56.3	+4	+24	+12
27	31	55	49	+10	+14	+27	+19	435.5	54.6	-4	+7	0
28	36	52	50	+15	+11	+28	+20	437.1	56.2	+12	+23	+16
29	33	40	37	+12	-1	+15	+11	437.7	57.0	+18	+31	+23
30	34	37	37	+13	-4	+15	+10	436.3	55.6	+4	+17	+9
31	37	37	37	+16	-4	+15	+11	436.9	54.9	+10	+10	+8

Chart VI. Depth of Snowfall and Limits of Freezing Weather, [illegible] 1905

Chart VI. Depth of Snowfall and Limits of Freezing Weather. March, 1895.


Total depth of snow on ground is shown in inches. (T. = Trace.)
The southern limit of freezing weather is shown by the frost line of minimum 40° F. ——— and by the freezing line of minimum 32° F. ———
Statute Miles.
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
Willis L. Moore, Chief.
Published by authority of the Secretary of Agriculture.
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Trace
32°
40°

Chart VII. Depth of Snow lying on ground March 31, 1895.

Chart VII. Depth of Snow lying on ground March 31, 1895.

Trace
Trace
Trace
Trace
Trace
Total depth of snow on ground is shown in inches. (T. = Trace.)
Statute Miles.
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
WILLIS L. MOORE, Chief.
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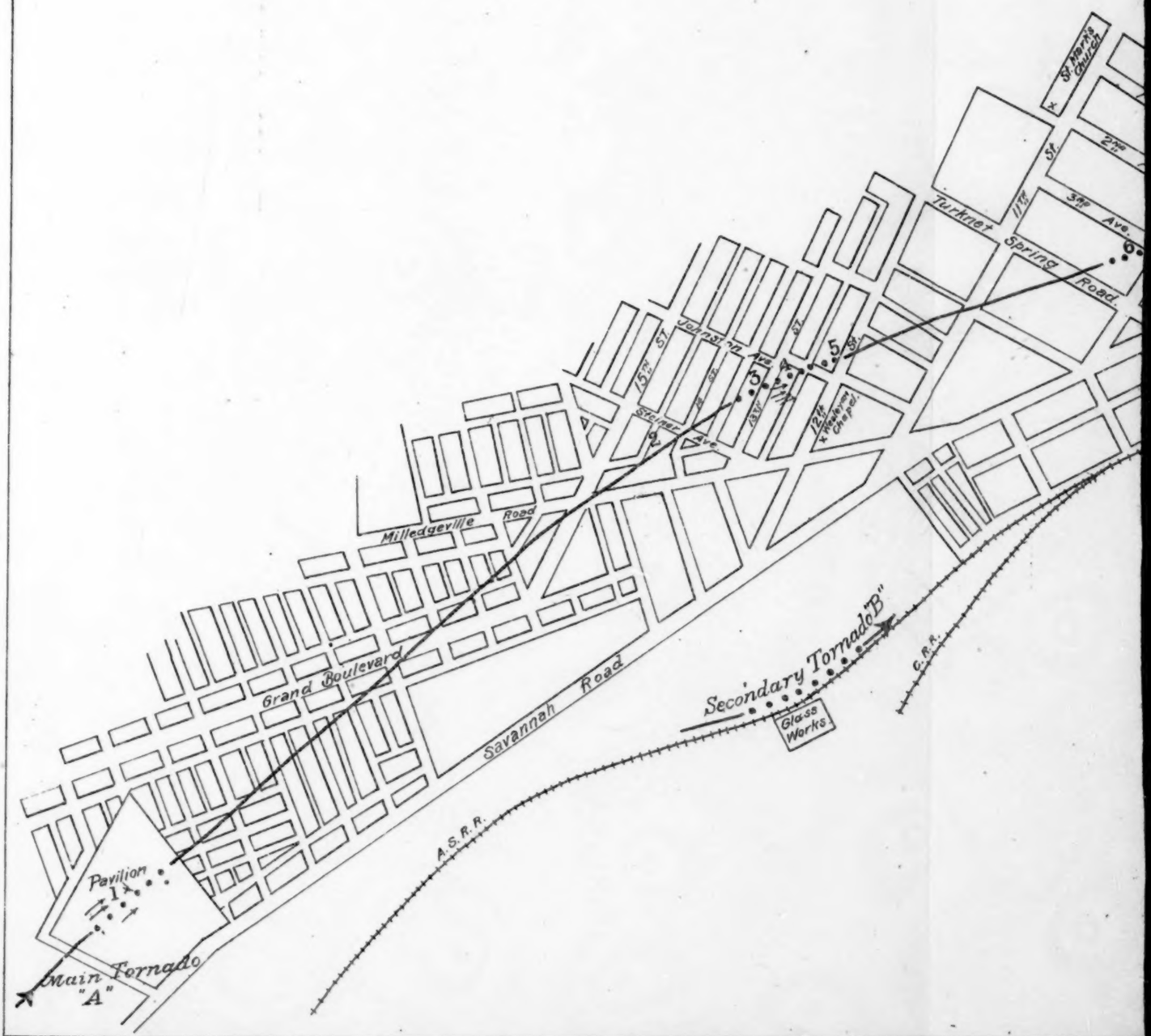
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart VIII.

PATH OF TORNADO, AUGUSTA, GA,

MARCH 20, 1895.

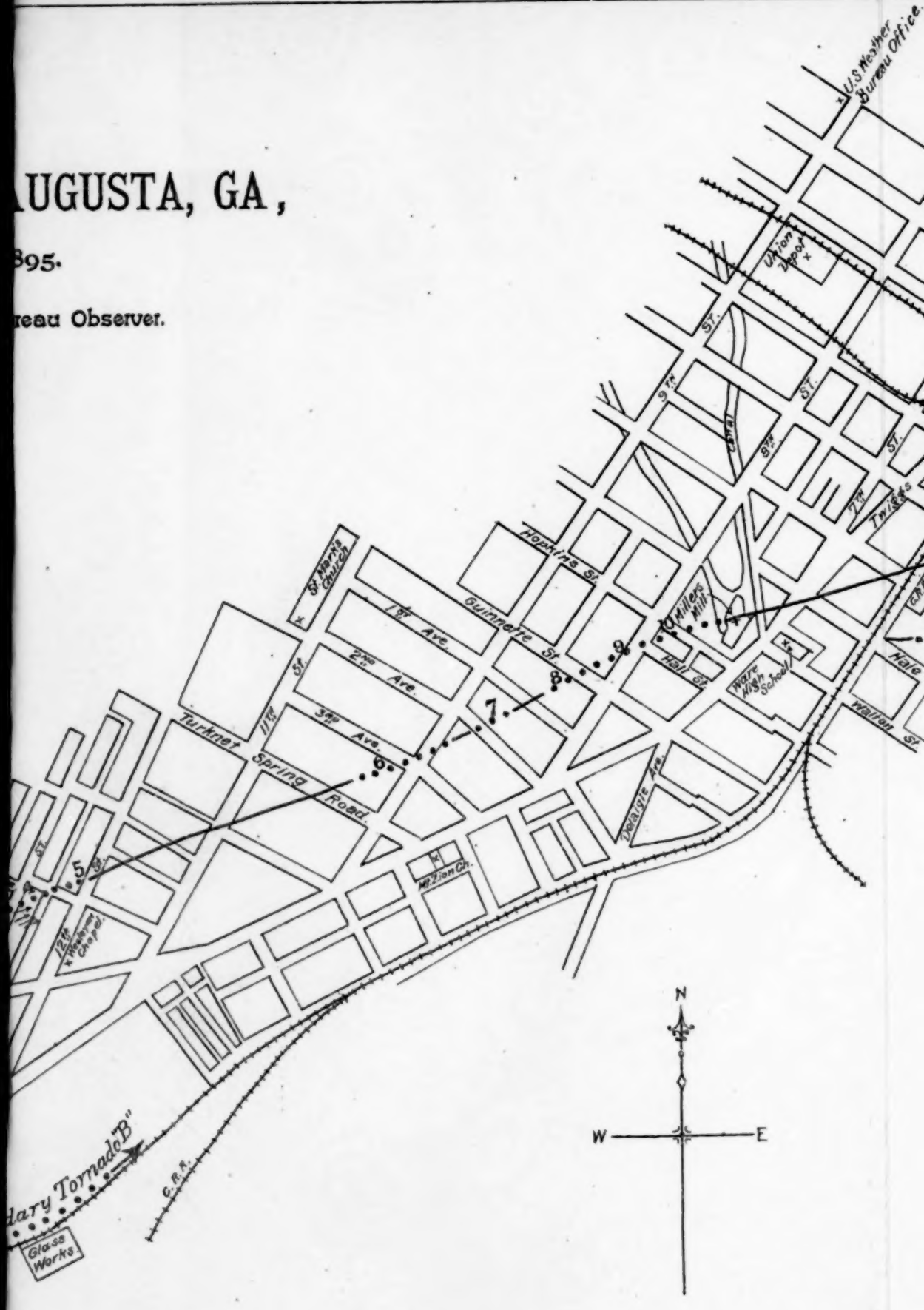
By D. FISHER, Weather Bureau Observer.

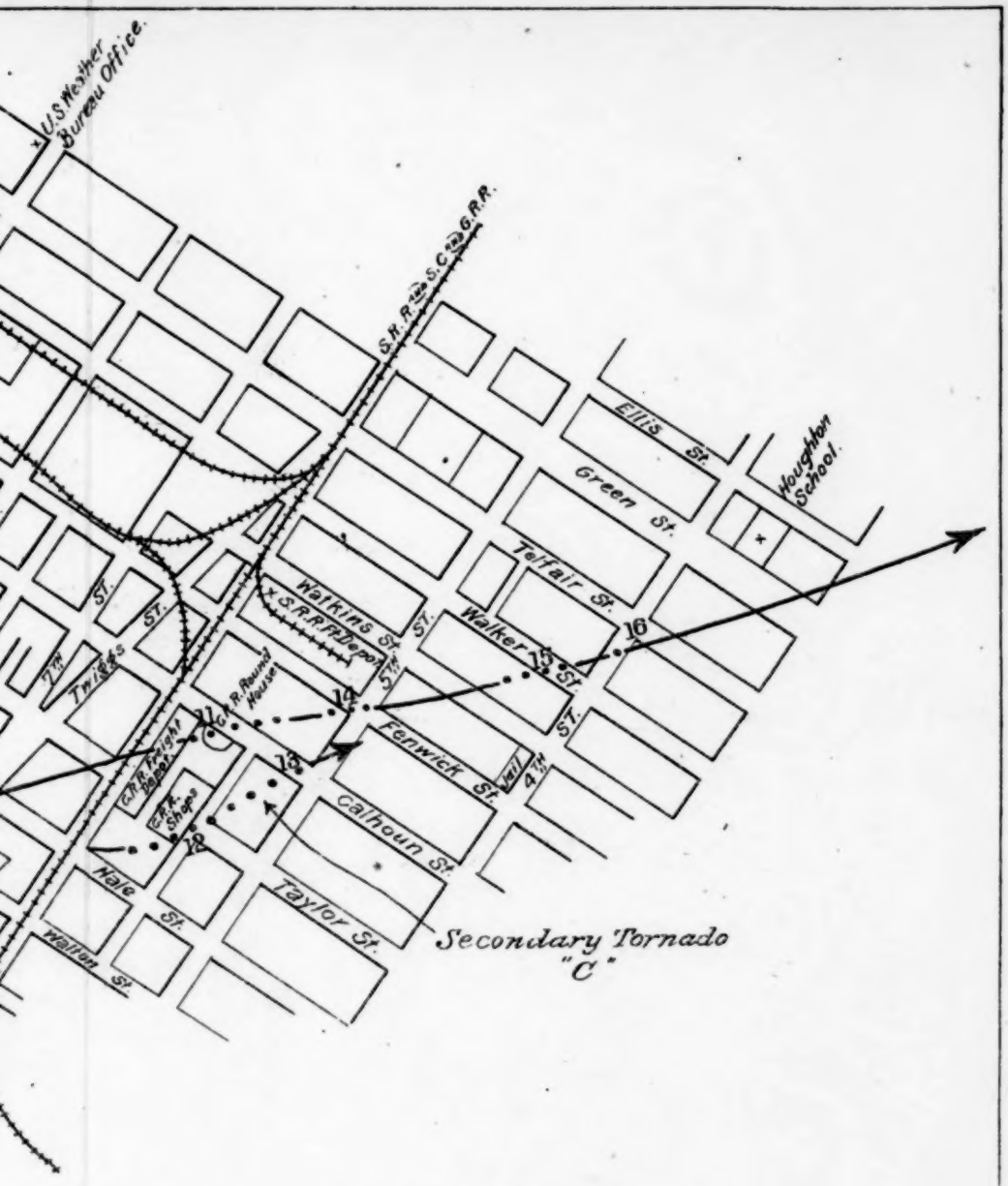


AUGUSTA, GA,

895.

reau Observer.





Scale in Feet.

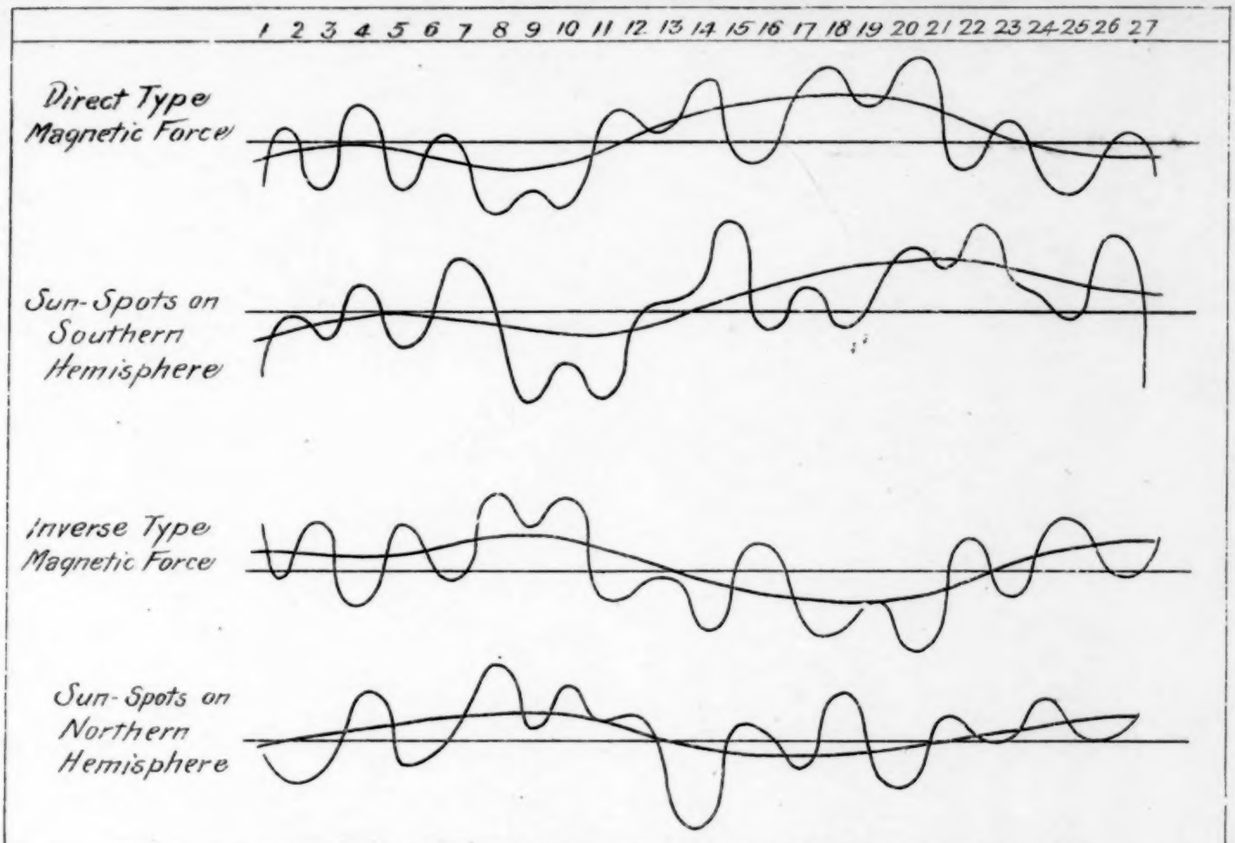
0 500 1000 1500 2000 2500

Explanation of Path

——— No Damage.

• • • • • • Destructive.

Chart IX. Comparison of the Total Sun Spot Areas, 1854–1895, with the European Magnetic Field, in the 26.68 day period.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
Direct Type Magnetic Force
Sun-Spots on Southern Hemisphere
Inverse Type Magnetic Force
Sun-Spots on Northern Hemisphere

Sun-Spot Areas arranged in the 2668 day Period.
1854-1895.

2668 Days	Southern Hemisphere.						Northern Hemisphere.					
	Car.	Spö.	Gr.	W.	Sum.	Var.	Car.	Spö.	Gr.	W.	Sum.	Var.
1	504	526	341	0	1371	-394	417	699	531	0	1647	-93
2	367	788	477	90	1722	- 43	261	815	334	80	1490	-250
3	221	977	369	35	1602	-163	364	810	429	0	1603	-137
4	283	1174	428	30	1915	+150	562	943	509	30	2044	+304
5	275	877	311	75	1538	-227	470	764	371	5	1610	-130
6	362	604	653	30	1649	-116	390	921	371	30	1712	- 28
7	408	1117	430	125	2080	+315	400	1101	342	30	1873	+133
8	270	946	449	85	1750	- 15	348	1042	658	125	2173	+433
9	274	689	230	0	1193	-572	410	834	417	135	1796	+ 56
10	398	724	273	40	1435	-330	425	1251	300	55	2031	+291
11	159	677	309	100	1245	-520	405	1035	332	80	1852	+112
12	356	872	282	150	1660	-105	398	806	598	55	1857	+117
13	316	977	487	0	1780	+ 15	378	825	236	25	1464	-276
14	347	955	510	75	1887	+122	249	738	210	0	1197	-543
15	584	1092	620	10	2306	+541	317	850	643	30	1840	+100
16	278	842	519	30	1669	- 96	272	1072	388	40	1772.	+ 32
17	383	794	653	50	1880	+115	281	883	356	40	1560	-180
18	215	833	535	75	1658	-107	452	811	674	70	2007	+267
19	233	1093	561	0	1887	+122	450	558	531	32	1571	-169
20	388	1004	667	30	2089	+324	311	707	376	50	1444	-296
21	323	919	711	58	2011	+246	384	986	376	120	1866	+126
22	344	1005	857	80	2286	+521	240	962	415	145	1762	+ 22
23	327	833	698	80	1938	+173	310	1027	332	70	1739	- 1
24	415	968	435	35	1853	+ 88	515	966	409	70	1960	+220
25	326	1026	300	47	1699	- 66	415	922	362	45	1744	+ 4
26	223	1010	959	35	2227	+462	292	914	536	15	1757	+17
27	191	700	437	0	1328	-437	212	720	599	80	1611	-129
				Mean -	1765					Mean -	1740	